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UNITED STATES DEPARTMENT OF AGRICULTURE

Agricultural Research

Western Region and the Agricultural  
Experiment Stations of the Western States

Quality Characteristics of Varieties and  
New Selections of Wheats Bred and Grown in the  
Western States 1/

Thirty-Fourth Annual Report

of the

Western Wheat Quality Laboratory

1981 Crop 2/

WRU No. 5802-20050-002

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January 1983

1/ In cooperation with the Arizona, California, Idaho, Montana, Oregon,  
Utah and Washington Agricultural Experiment Stations who developed  
and grew the experimental wheat selections studied.

2/ This is a Progress Report of cooperative investigations of the  
milling and baking characteristics of current commercial varieties  
and new selections of wheat grown in the Western states. Interpretation  
of the data may be changed with further experimentation;  
therefore, data in this report are not for publication, display,  
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Thirty-Fourth Annual Report  
of the  
Western Wheat Quality Laboratory  
1981 Crop

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Western Wheat Quality Laboratory  
1981 CropSUMMARY OF ACCOMPLISHMENTS  
(CY 82)

1. Evaluation for end-use milling and baking quality of 1550 experimental wheat crosses grown and harvested as the 1981 crop were made. The selections were submitted from the wheat breeding programs in the Western states. Analysis and evaluation were completed on about 474 selections from the 1982 crop. Test criteria used to determine acceptability were flour yield, protein, ash and color; cookie diameter; loaf volume and crumb score; dough mixing requirements and water absorption; Japanese sponge cake volume and texture; Udon noodle yield, texture, color and score; and some developed test for Middle-Eastern style flat breads. Many of these experimental selections were judged as having acceptable end-use quality fitting their market classes. This work is an integral part of the wheat improvement programs to assure release of good agronomic and high quality wheat varieties. Results of the analysis can be found in the tables of data in Nursery Codes #1 through #60 and #1 Special. See the Index of Nurseries (page vi) for nursery titles, locations, and breeders.
2. In addition, the evaluation of milling and baking properties were made on 2940 early generation selections from the wheat breeding programs that were grown in 1981. Studies included materials from snowmold, foot rot, dwarf smut, yield trial, and various crop management studies. Twelve hundred and one (41%) of the experimental crosses were rated as having promise in overall quality characteristics. This material represents a new generation of experimental selections that are candidates for advancing and further testing to determine their desirability as possible commercial varieties. About 1000 HRW crosses that were made to high protein sources were analyzed for protein and lysine. See Summary List of Early Generation Nurseries Evaluated on page 17. No data is included.
3. In co-operation with the PNW Grain Council and U.S. Wheat Associates milling and baking evaluation were made on 14 commercial composites representing the wheat crop (1981) of WA, OR, and ID. The data was used in their marketing brochures. See Nursery Code number 011.
4. In co-operation with the Montana Wheat Quality Council we assisted in the pilot milling and baking evaluation of 27 hard red winter and spring samples. The samples were advanced selections from the Montana wheat breeding program, which were candidates for commercial variety release following industry evaluation. See Nursery Code 012 for results. Similarly we collaborated with the Hard Red Winter Wheat Quality Council by baking evaluation of 16 hard red winter wheats. For these results see Nursery Code 038.

5. We cooperated with the General Sales Manager Office, USDA, FAS in analyzing samples of soft white wheats originating from the Pacific Northwest and Michigan that were to be assembled into a western white cargo at Toledo, OH for shipment to Iran. The Michigan soft white and PNW club made a very good sub-class of western white. See Nursery Code number 017.
6. Continental Grain Company who was interested in contracting with growers in SW Colorado to grow WS 31, ask for an evaluation of the variety. Test results showed it to be extremely poor in all respects. See Nursery Code number 032 for data.
7. As in past years the Laboratory conducted the Pacific Northwest Grain Council Collaborative test, which is an industry wide quality effort to evaluate promising varietal selections for acceptable end-use quality. The project is partially funded by the Pacific Northwest Grain Council. Thirteen samples were pilot milled and flour distributed to 12 collaborators of the domestic and foreign milling and baking industry. Results were summarized and distributed as the 11th Annual Report in October/82. See Nursery Code number 055.
8. In cooperation with U.S. Wheat Associates we analyzed 5 foreign wheats for Middle-Eastern flat breads and traditional Japanese products. These included SWW from Canada and Australia, SRW from France, and a HWW from Egypt. Results were mixed, see Nursery Code number 059.
9. In cooperation with the USDA, FGIS eight sprouted wheat samples which they collected were milled and blended with 2 sound soft white wheats to prepare samples for methodology studies by them and 4 other collaborators. Falling number, DSF colorimetric, amylograph, and the Nepheolmetric method were compared. See Nursery Code number 060.
10. Thirty five early generation derivatives of T. dicoccoides (wild emmer) from the Volcani Institute, Bet Dagan, Israel were experimentally milled and test baked for bread making properties. Fourteen of these were scored as promising in overall quality. See Nursery Code number SPECIAL 001.
11. In response to the marketing problem of Anza wheat in California, special emphasis was given to evaluate as many of the experimental selections as possible from the California breeding program. Milling and baking evaluations were made on 323 selections and several were identified as having good overall quality. See Nursery Code numbers 003-010, 014, 036, and 037.
12. Several hybrids produced by crossing a Japanese "Squarosa" wheat to Bison (HRW) and Gaines and Nugaines (SWW) were evaluated for milling and baking properties. The Bison crosses were promising in both milling and baking characteristics. The soft white hybrids were atypical in flour strength, but a few were outstanding in milling properties. See Nursery Code numbers 047 and 048.

13. Nine restores lines were screened for milling and baking properties. About half were promising in overall quality. See Nursery Code number 056.
14. Functional baking properties and compositional characteristics of PNW soft white wheats in five Iranian flat breads were systematically studied. Data shows the current varieties are ideally suited for these breads. A standardized experimental baking procedure was developed for Egyptian balady bread and several other important North African breads. Manuscripts have been prepared and either published or have been accepted covering this work. No data is included, see publications.
15. The traditional Middle-Eastern practice of preparing breads made from near whole wheat flour and very low to no fermentation have been suspect for the cause of mineral deficiency. Five breads varying in flour extraction rate (white flour to whole flour) and in yeast fermentation were prepared and fed to weanling rats. Village bread (extraction rate 97%) containing higher levels of fiber and phytate content was found to not lower the bioavailability of magnesium when the sole source of Mg, fiber, and phytate of the diet was bread. Similarly, no correlation with fiber or Zn:phytate molar ratio of the diets were observed. However; when breads rather than unfermented doughs were used for preparing the diets, with one exception, bioavailability of Zn significantly ( $P < 0.05$ ) improved. No data is included, see publications.
16. A phytic acid assay using phosphorous before and after precipitation with ferric chloride has been refined. Optimization of pH, filtration and precipitation steps resulted in a highly accurate and reproducible procedure. Redesign of the procedure now allows from 48 to 64 samples to be assayed each day.
17. Whole wheat bread studies were initiated to evaluate the interrelationships among variety, flour extraction, flour granulations, bread formula, fermentation time and bread quality. Finer granulation generally produced significantly more desirable breads. Also finer flour granulation significantly increased loaf volume potential when breads were formulated with egg yolk. From the studies it appears that bran and germ fractions of the various wheat varieties range in pan-bread functionality.
18. More Yamhill and sister selections were germinated to verify Yamhill's apparent nutritive superiority. Samples of 0 to 7 days germination are presently being analyzed for complete and free amino acids and will be analyzed for free and bound phosphorous (phytic acid).
19. A thorough review on germination of about 600 papers from 150 journals spanning the last century was completed. The review has been received by the editor and will be in print in early 1983 in Recent Advances in Phytochemistry, Vol. 17.

## INDEX OF NURSERIES

NURS	NURS	LOCATION	BREED	NOSAM	BLABNO	SDATE	BRCO	COCO	CACO	NOCO	PBAR
001	SOFT WHITE WINTER YIELD TRIALS	POMEROY, WA	C.J. PETERSON	120	810001	81224	0	1	0	0	7
002	HARD RED WINTER YIELD TRIALS	POMEROY, WA	C.J. PETERSON	28	810121	81224	1	0	0	0	11
003	EXPERIMENT 110	DAVIS, CA	C.O. QUALSET	33	810149	81237	1	0	0	0	10
004	EXPERIMENT 111	DAVIS, CA	C.O. QUALSET	38	810182	81237	1	0	0	0	10
005	EXPERIMENT 109	DAVIS, CA	C.O. QUALSET	45	810220	81237	1	0	0	0	10
006	EXPERIMENT 112	DAVIS, CA	C.O. QUALSET	28	810265	81237	1	0	0	0	9
007	EXPERIMENT 113	DAVIS, CA	C.O. QUALSET	14	810293	81237	1	0	0	0	10
008	EXPERIMENT 115	DAVIS, CA	C.O. QUALSET	25	810307	81237	1	0	0	0	10
009	EXPERIMENT 106	DAVIS, CA	C.O. QUALSET	10	810332	81237	1	0	0	0	10
010	EXPERIMENT 107	DAVIS, CA	C.O. QUALSET	10	810342	81237	1	0	0	0	10
011	PNW CROP QUALITY SURVEY	OR, WA, ID	C.O. QUALSET	14	810352	81265	0	1	1	1	7
012	MONTANA WHEAT QUALITY COUNCIL	SD, HV, MC, CN, BZ, MONT.	M. KOLDING	27	810366	81271	1	0	0	0	13
013	ADVANCED WHEAT AND TRITICALE	PENDLETON, OR	C.O. QUALSET	5	810393	81279	1	1	0	0	8
014	EXP 114, 116, 117, 118, 119, 120, 123, 155, & 156	DAVIS, CA	C.R. ROHDE	95	810398	81272	1	0	0	0	10
015	PRELIMINARY WINTER	PENDLETON, OR	C.R. ROHDE	20	810493	81295	0	1	0	0	8
016	ADVANCED WINTER	PENDLETON, OR	C.R. ROHDE	16	810513	81295	0	1	1	1	7
017	FAS-WESTERN WHITE AND CLUB EXPORT	TOLEDO, OH	C.R. ROHDE	3	810529	81300	0	1	1	1	8
018	WESTERN REGIONAL WHITE WINTER	POM, PENDL, MORO, ABERD	C.R. ROHDE	22	810532	81306	0	1	1	1	8
019	VOID			22	810532	81306	0	0	0	0	0
020	PRELIMINARY WINTER	LIND, WA	E. DONALDSON	17	810554	81307	0	0	0	0	11
021	STATE HARD RED WINTER	LIND, WA	E. DONALDSON	37	810777	81306	1	0	0	0	10
022	STATE SOFT WHITE SPRING	LIND, RS, PUL, HAR, WA	C.F. KONZAK	20	810814	81306	0	0	0	0	10
023	DUAL PURPOSE	LIND, WA	C.F. KONZAK	26	810834	81309	1	1	0	0	12
024	DUAL PURPOSE	PULLMAN, WA	C.F. KONZAK	23	810860	81309	1	1	0	0	10
025	DUAL PURPOSE #26	ROYAL SLOPE, WA	C.F. KONZAK	26	810883	81309	1	1	0	0	10
026	DUAL PURPOSE #26	PULLMAN, WA	C.F. KONZAK	24	810909	81309	1	1	0	0	10
027	COMMERCIAL VARIETIES HARD	ROYAL SLOPE, WA	C.F. KONZAK	24	810933	81309	1	1	0	0	10
028	COMMERCIAL VARIETIES SOFT	LIND, WA	C.F. KONZAK	22	810957	81309	1	0	0	0	13
029	COMMERCIAL VARIETIES HARD	LIND, WA	C.F. KONZAK	21	810979	81309	0	1	0	0	11
030	COMMERCIAL VARIETIES SOFT	ROYAL SLOPE, WA	C.F. KONZAK	22	811000	81309	0	1	0	0	9
031	CONTINENTAL VARIETIES SOFT	PORTLAND, OR	C.F. KONZAK	21	811022	81309	0	1	0	0	9
032	WESTERN REGIONAL GRAIN CO. SAMPLE	STLWTR, POM, ABRD, LND	C.F. KONZAK	27	811044	81306	1	0	0	0	11
033	HARD RED WINTER	KALSP, TWNFLLS, RLSLP	C.F. KONZAK	15	811071	81319	1	0	0	0	11
034	HARD RED SPRING	KALSP, TWNFLLS, RLSLP	C.F. KONZAK	23	811086	81319	0	1	1	1	9
035	WESTERN REGIONAL SOFT WHITE SPRING	DAVIS, CA	C.O. QUALSET	17	811109	81341	1	0	0	0	10
036	EXPERIMENT 121	DAVIS, CA	C.O. QUALSET	18	811126	81341	1	0	0	0	10
037	EXPERIMENT 122	MANHATTAN, KS	W.E. KRONSTAD	16	811144	81341	1	0	0	0	13
038	HARD RED WINTER WHEAT QUALITY COUNCIL	HYSLOP, OR	W.E. KRONSTAD	24	811160	81320	0	1	0	0	9
039	SOFT WHITE REP. YIELD TRIAL	MORO, OR	W.E. KRONSTAD	38	811184	81320	0	1	0	0	7
040	SOFT WHITE REP. YIELD TRIAL	PENDLETON, OR	W.E. KRONSTAD	14	811222	81321	1	0	0	0	8
041	HARD RED REP. YIELD TRIAL	PENDLETON, OR	W.E. KRONSTAD	6	811236	81321	1	0	0	0	8
042	HARD RED REP. YIELD TRIAL	MORO, OR	W.E. KRONSTAD	18	811242	81321	0	1	0	0	7
043	SOFT WHITE REP. YIELD TRIAL	MORO, OR	W.E. KRONSTAD	15	811260	81321	1	0	0	0	8
044	HARD RED ELITE	MORO, OR	W.E. KRONSTAD	32	811275	81321	0	1	0	0	7
045	SOFT WHITE ELITE	TULELAKE, CA	P. PURI	20	811307	81355	1	1	0	0	9
046	COMMON WHEAT (FERT. STUDY)	WALWALA, PUL, CLYDE WA	R.E. ALLAN	14	811327	81355	1	0	0	0	12
047	JAPANESE NC HYBRIDS	WALWALA, PUL, CLYDE WA	R.E. ALLAN	46	811341	81355	0	1	1	1	10
048	JAPANESE NC HYBRIDS	CONN, WTRVILLE WA	E. DONALDSON	10	811387	82011	1	0	0	0	9
049	PROMISING ADVANCED SELECTIONS	PULLMAN, WA	R.E. ALLAN	13	811397	82011	0	1	0	0	0
050	PURE SEED			0							0

NURS CODE	NURS ID	NURSERY NAME	LOCATION	BREED	NOSAM	BLABNO	SDATE	BRCO	COCO	CACO	NOCO	PBAR
051		ROHM & HAAS HYBRID WHEAT	PENDLETON, OR	C.R. ROHDE	20	811410	82011	0	1	0	0	7
052		ADVANCED SOFT WHITE WINTER	MORO, OR	C.R. ROHDE	17	811430	82011	0	1	0	0	8
053		PRELIMINARY SOFT WHITE WINTER	MORO, OR	C.R. ROHDE	24	811447	82011	0	1	0	0	8
054		WESTERN PLANT BREEDERS (RUST RES)	BURLEY, ID	C.F. KONZAK	6	811471	82029	0	1	0	0	10
055		PNW GRAIN COUNCIL COLLABORATIVE TESTS	RS, LIND, WA & CORV OR	R.E. ALLAN	13	811477	82050	1	1	1	1	10
056		RESTORER LINES (PLH)	PULLMAN, WA	D.F. SUNDERMAN	13	811490	82060	0	1	0	0	9
057		ADVANCED WHITE SPRING	ABERDEEN, ID		15	811503	82113	0	0	1	0	10
058		DRILL STRIPS	PULLMAN & LIND, WA		44	811518	81324	1	1	1	1	10
059		U.S. WHEAT ASSOCIATES	INTERNATIONAL		5	811562	82127	0	0	0	0	9
060		FCIS SPROUT DAMAGE STUDY	COMM. PNW		10	811567	82143	0	1	1	1	9

KEY : NOSAM = NUMBER OF SAMPLES

BLABNO = BEGINNING LAB NUMBER

BRCO = BREAD CODE

COCO = COOKIE CODE

CACO = CAKE CODE

SDATE = DATE SAMPLES RECEIVED

NOCO = NOODLE CODE

PBAR = NURSERY MEAN PROTEIN

## ABBREVIATION DESCRIPTION

We have implemented a computer program to store, calculate, and retrieve our milling and baking data. The following is a list of abbreviations used as column headings in the following tables of data.

NURSCO - Nursery Code Number (located upper left corner of table).  
 LABNUM - Laboratory Number (first two digits crop year).  
 VAR - Variety or selection name.  
 IDNO - CI or Selection Identification Number.  
 TWT - Test weight in lbs/bu.  
 FASH - Flour ash percent at 14% moisture basis.  
 FYELD - Percent of flour obtained.  
 MSCOR - Milling score.  
 FPROT - Flour protein percent at 14% moisture basis.  
 FABSC - Farinograph water absorption corrected to 14% moisture basis.  
 FPEAK - Farinograph mixing peak time in minutes.  
 FSTAB - Farinograph stability in minutes.  
 BABS - Bake water absorption at 14% moisture basis.  
 BABSC - Bake absorption corrected to mean protein of nursery.  
 MTIME - Optimum mixing time in minutes.  
 LVOL - Bread loaf volume observed in cc's.  
 LVOLC - Bread loaf volume (cc) corrected for protein to the mean protein of the nursery. (See table 1 or 2, page ix )  
 BCRGR - Bread crumb grain rating code. (See table 3, page x )

CODE	MEANING	
1	Excellent	(S*)
2	Satisfactory	(S)
3		(Q-S)
4	Questionable-Satisfactory	(Q-S)
5		(Q-\$)
6	Questionable	(Q)
7		(Q-\$)
8	Questionable-Unsafe	(Q-U)
9	Unsafe	(U)

CODI - Cookie diameter in cm's.  
 CODIC - Cookie diameter (cm) corrected for protein to the mean protein of the nursery. (See table 1 or 2, page ix )  
 VISC - Brookfield viscosity (observed)  
 VISCC - Brookfield viscosity corrected for protein to the mean protein of the nursery.  
 CAVOL - Japanese Sponge Cake Volume in cc's.  
 SCSCOR - Sponge cake score (scale 1-100)  
 WTIN - Noodle weight increase (percent).  
 NYELD - Noodle yield.  
 NOSCORE - Noodle score (1-100)  
 MABS - Mixograph absorption at 14% moisture (%).  
 MABSC - Mixograph absorption corrected for protein (%).  
 MTYPE - Mixograph Type - From Mixograph Reference Chart.

RATE - Overall Rating when used see table 3.  
 RMKS - Remarks.

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INTERPRETATION OF DATA

As in the past reports, decisions were based on the results of the tests after adjustment to an average protein content of the nursery using correction factors derived from several years of data on particular varieties and/or classes of wheat. These correction factors and scale for ranking codes can be found in the following tables 1-3.

CORRECTION FACTORS - TABLE 1

VTN	VARIETY	(VC) LOAF VOLUME	(CC) COOKIE
1	Anza	61	0
2	Burt	51	.078
3	Coulee	76	.070
4	Fortuna	64	0
5	Gaines	38	.136
6	Hyslop	0	.137
7	Inia 66	68	0
8	Itana	60	0
9	Kharkof	57	0
10	Luke	0	.085
11	Marfed	61	.098
12	McCall	52	0
13	McDermid	0	.106
14	Moro	0	.094
15	Nugaines	62	.118
16	Omar	0	.083
17	Paha	0	.037
18	Sprague	0	.062
19	Springfield	0	.042
20	Twin	0	.149
21	Yamhill	0	.124
22	Wanser	69	0
23	Wared	62	0

Variety name (VAR) not found or where the value is zero in Table 1, use correction factor for class of sample in Table 2.

VTN = Computer system variety number

## CORRECTION FACTORS - TABLE 2

CLASS	(VC) LOAF VOLUME	(CC) COOKIE
SWW	60	.110
SWS	60	.110
CLUB	55	.071
HRW	62	.080
HRS	62	.080
HWW	62	.080
HWS	62	.080

## RANKING AND RATING CODES - TABLE 3

CODE BREAD CRUMB GRAIN	MEANING
1	Excellent (S*)
2	Satisfactory (S)
3	(Q-S)
4	Questionable-Satisfactory (Q-S)
5	(Q-\$)
6	Questionable (Q)
7	(Q-Ø)
8	Questionable- Unsatisfactory (Q-U)
9	Unsatisfactory (U)

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INTRODUCTION

This is the Thirty-Fourth Annual Report of the Western Wheat Quality Laboratory of cooperative investigations with breeder, geneticists, and pathologists in the seven Western states to evaluate the milling and baking quality characteristics of experimental wheat selections grown and harvested as the 1981 crop. These investigations included several market classes and sub-classes of wheat which are commercially grown in the Pacific Northwest and the Western region and relates to their quality for commercial production and consumer acceptance. These studies deal with the physical-chemical flour properties associated with a wheat's suitability for commercial pastry and bread products.

The nurseries have been arranged in nurseries (Nursery Index in Table of Contents) and the varieties and selections are listed in the tables in order of their assigned Laboratory Number. Mixograms were run on all samples evaluated, but none were reproduced for inclusion in this report. Alternately, each mixogram was characterized by type as described in the Methods Section.

1/ Research Food Technologist, Research Food Technologist, Research Food Technologist, Research Food Technologist, Physical Science Technician, Physical Science Technician, Biological Technician and Clerk-Typist, respectively, U.S. Department of Agriculture, Agricultural Research Service, Western Region, assigned to the Western Wheat Quality Laboratory, Wheat Breeding and Production Unit, Pullman, Washington.

2/ Credit is due Garrison King, Washington State University Laboratory Technician II for the flour milling and physical-chemical determinations made on early generation material. This work was supported by grant funds from the Washington Wheat Commission.

Credit is due Hamed A. Faridi, Visiting Scientist for leadership, assistance and knowledge shared on Middle-Eastern and North African flat bread requirements and methods for testing. His work was supported by a grant from the Washington, Oregon and Idaho Wheat Commissions.

## METHODS USED BY USDA, WESTERN WHEAT QUALITY LABORATORY

All wheat samples were fumigated when received with 800 cc of methyl bromide/50 gal. drum overnight and then aerated, cleaned, scoured, test weight (1, Method 84-10) determined, sub-sampled for approximate analysis, and placed in the storeroom until experimentally milled by the following methods:

Buhler Milling: All of the 1981 samples of Advanced and Regional Nurseries were milled on a Buhler, pneumatic, laboratory mill. The samples were tempered to a predetermined moisture content ranging from 14.0% to 16.0%, depending on the hardness and the known flour-bolting properties. The harder wheats require the most water. Thus, the grain was conditioned so that the most rapid and most complete separation of endosperm could be made. The temper water contained a wetting agent (.1% Aerosol OT) to hasten moisture penetration and the tempered wheat was allowed to rest for 16-24 hours before milling to permit uniform distribution of the moisture. An additional 0.5% water was added 15-20 minutes prior to milling. The Buhler experimental mill schematic flow is shown in Figure 1.

All six flour streams were combined to make a straight-grade flour. The first and second break and first and second reduction streams were combined for a patent flour. All straight-grade flour was rebolted on a 120 stainless steel wire screen and blended thoroughly.

Flour Yield: The percent of the total products recovered as straight-grade white flour.

Milling Time: The minutes required to mill a 2000-gram sample with the Buhler experimental mill and obtain a normal separation of bran, shorts, and flour. Time is determined by visual observations and adjustments by an experienced miller.

Milling Score: Calculated as follows:

$$100 - [(80 - \text{flour yield}) + 50 (\text{Flour ash} - .30) + .48 (\text{Milling time} - 15) + .5 (65 - \% \text{ long patent}) + .5 (16 - 1\text{st tempering moisture})]$$

Modified Quadurmat Milling Method: The preliminary nurseries were experimentally milled on Modified Quadurmat system (500g). The procedure was described in the 27th Annual Report, Oct. 1976 (pages 1-14). Conversion of the data to give a predicted Buhler flour yield and milling score was done with the following linear equations:

Flour Yield

Milling Score

$$\begin{array}{ll} \text{Soft wheat } (y = 14.0671 + .83474X) & \text{Soft wheat } (y = -21.60185 + 1.27367X) \\ \text{Hard wheat } (y = 13.4166 + .83298X) & \text{Hard wheat } (y = -3.43818 + 1.0448X) \end{array}$$

The Modified Procedure is schematically shown in Figure 2. Modifications include those described by Jeffers and Rubenthaler (11).

# BUHLER EXPERIMENTAL MILL

Clean Tempered  
Wheat

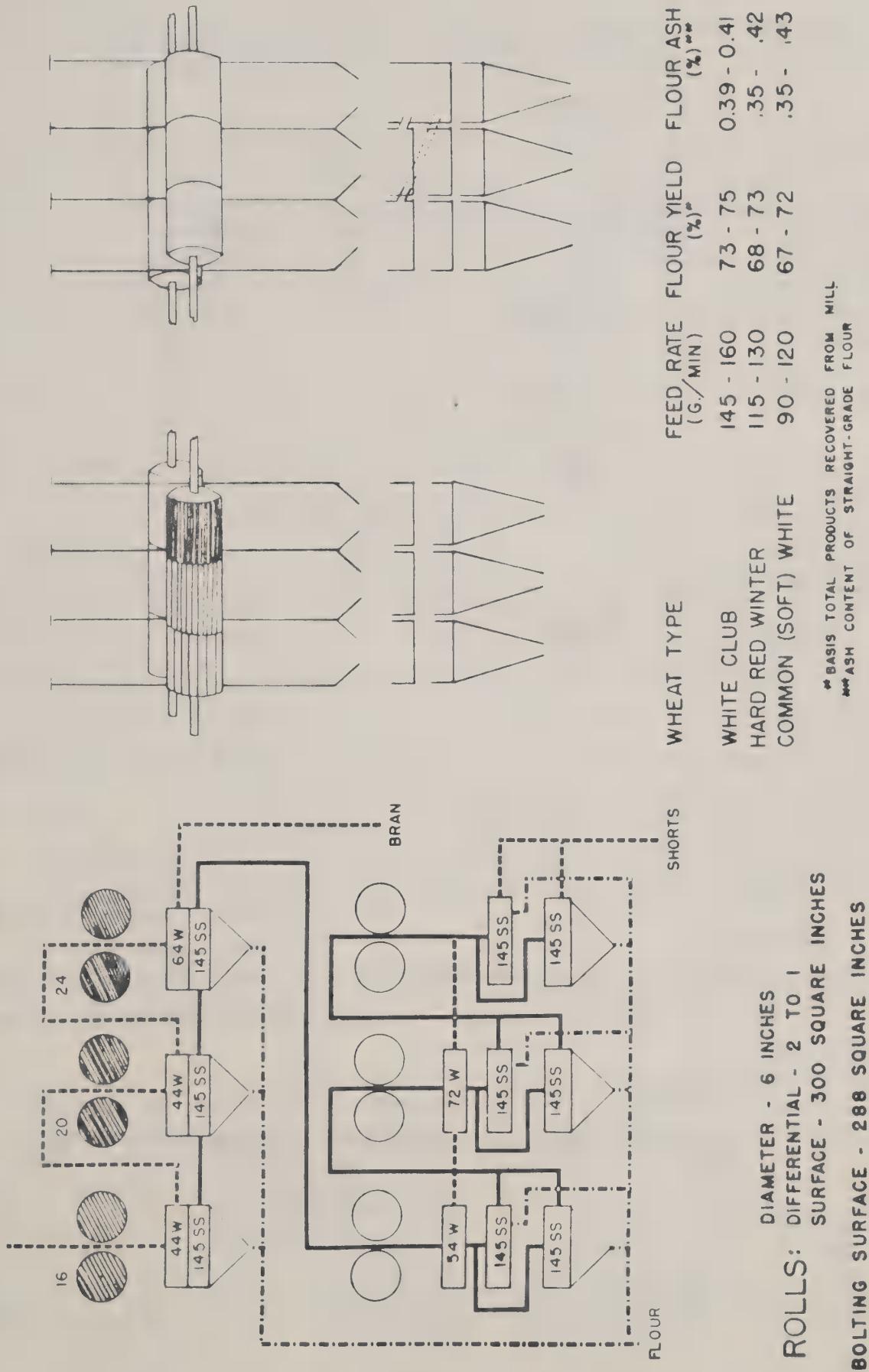
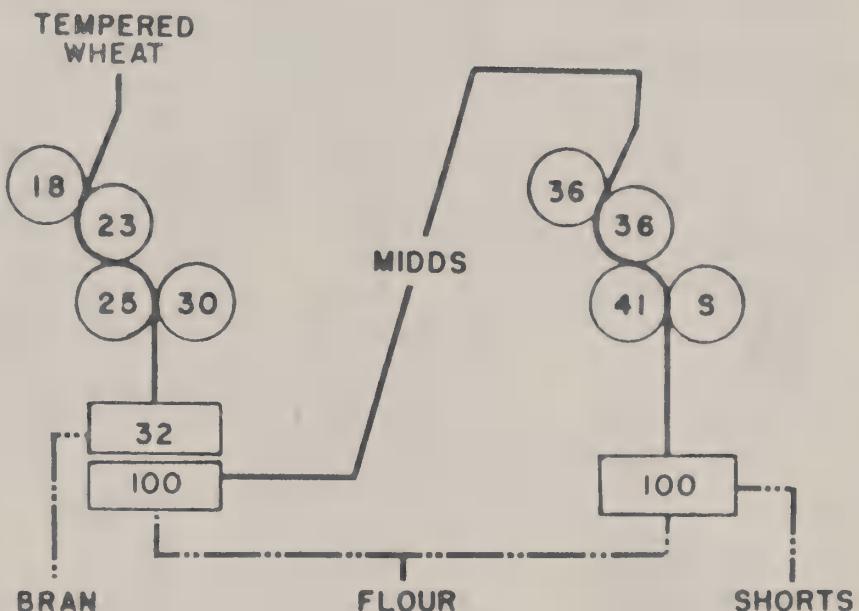


Figure 1. Schematic flow of the Buhler experimental mill showing a range of the average feed rates, flour yields, and flour ash of the various classes of wheat. Roll settings are varied for optimum clean-up and reduction of the stock, and feed rates according to the bolting and reduction properties.

# MODIFIED QUADRUMAT SR. MILLING PROCEDURE



BREAK UNIT BRABENDER QUADRUMAT JR. WITH QUADRUMAT SR BREAK ROLLS	REDUCTION UNIT BRABENDER QUADRUMAT SR. REDUCTION HEAD
<b>ROLLS:</b> DIAMETERS: 2.8 INCHES	<b>SIFTERS:</b> 8 INCH TYLER TESTING SIEVES ON ZELENY SEDIMENTATION SIEVE SHAKERS
<b>SPEED:</b> FAST ROLLS: 1200 RPM SLOW ROLLS: 560 RPM	<b>SIFTING SCHEDULE:</b> BREAK STOCK: BRAN: REMOVED AFTER 1 MIN. MIDLINGS: REMOVED AFTER AN ADDITIONAL 2 MIN. (3 MIN. TOTAL)
<b>DIFFERENTIAL:</b> 2.14 TO 1	<b>REDUCTION STOCK:</b> 3 MIN.
<b>TEMPER:</b> TO 15% FOR 24 HOURS WITH WETTING AGENT	

**SAMPLE SIZE:** 100-250 GRAMS TEMPERED WHEAT  
(HELD CONSTANT WITHIN EACH COMPARISON GROUP)

**OUTPUT:** 5-7 SAMPLES PER HOUR

Figure 2. Semi micro experimental mill flow with the roll corrugations per inch. The break rolls have corrugation spirals of 1.25, 1.75, 1.88, and 1.25 inch/ft. in progressive order, and the middling reduction roll spirals are 1.25, 1.25, 1.25, and frosted smooth. Roll spacings for first, second and third break are 0.035, 0.0035, and 0.002 inch respectively. The middling rolls are set at 0.0015, 0.0020 and 0.0015 inch respectively.

Semi Micro Flour Quality:\* Wheats milled on the semi-micro mill which gave satisfactory flour yields were evaluated by the following tests and all others with unsatisfactory milling properties were discarded: NIR protein, mixograph (3, 9), and AWRC test (14,17) to distinguish whether they fit the sub-class of club or soft common and/or hard wheats.

Micro Milling of Single Plant Selections:\* The 5-10 gm samples of grain were accurately weighed, placed in vials, and water added to bring them to 14% moisture. The tempered grain was milled on the micro mill which consists of two pairs of corrugated rolls and double sifters with 38- and 135-mesh stainless steel screens. The bran over the 38-mesh sifters was evaluated for milling properties by visual examination for the degree of bran clean-up. The throughs of the 135-mesh stainless steel screen, of those samples considered to be good milling types, were examined for flour quality by means of the Modified Micro Sedimentation Method (12). Protein and lysine are determined on these materials by NIR analysis (16). A schematic flow diagram of the micro mill is shown in Figure 3 (2, 13).

Moisture Content of Wheat & Flour: These values have not been given in these reports, but the methods are as follows: The reference test is two grams of ground wheat in an aluminum moisture dish are heated in a forced draft oven for 40 minutes at 140° C., allowed to cool in a desiccator and weighed. Flour Moisture is determined in the same manner except that it is heated only 20 minutes. The NIR (Technicon 400) is routinely used as calibrated to the above method.

Ash of Wheat and of Flour: The ash from a 4-gram sample of wheat meal or flour heated for 15 hours at 550° C. in a muffle furnace. (1, Method 08-01).

Protein of Wheat and Flour: The protein content of the samples was determined by the NIR method, and checked (about 10% of the material) by the Kjeldahl method (1, Method 46-12).

Alkaline Water Retention Capacity (AWRC): The percent increase in weight of 7.5 g flour due to absorption of water from 35 ml of .1 normal  $\text{NaHCO}_3$  solution (17).

Viscosity: Dial reading  $\times$  7.5 of a RVT Brookfield Synchro-Lectric Viscometer fitted with a No. 2 spindle at 50 R.P.M. using a suspension of 20 grams of flour in 100 ml of water and 7 ml of 1 N lactic acid (15).

Mixogram: Used to characterize new selections as to market class and estimate baking properties. The recently developed 10 gm instruments were used and the testing procedure and interpretation of K.F. Finney(9) was followed. To reduce the time and expense involved in reproducing the mixograms a reference chart was developed to characterize each curve as to type ranging from very weak to exceptionally long and strong types. The chart and instructions for its use are found on pages 7 and 8.

\*Supported by special grant of funds from the Washington Department of Agriculture and the Washington Wheat Commission to permit extensive early generation ( $F_3-F_4$ ) testing.

# MICRO-MILL FLOW

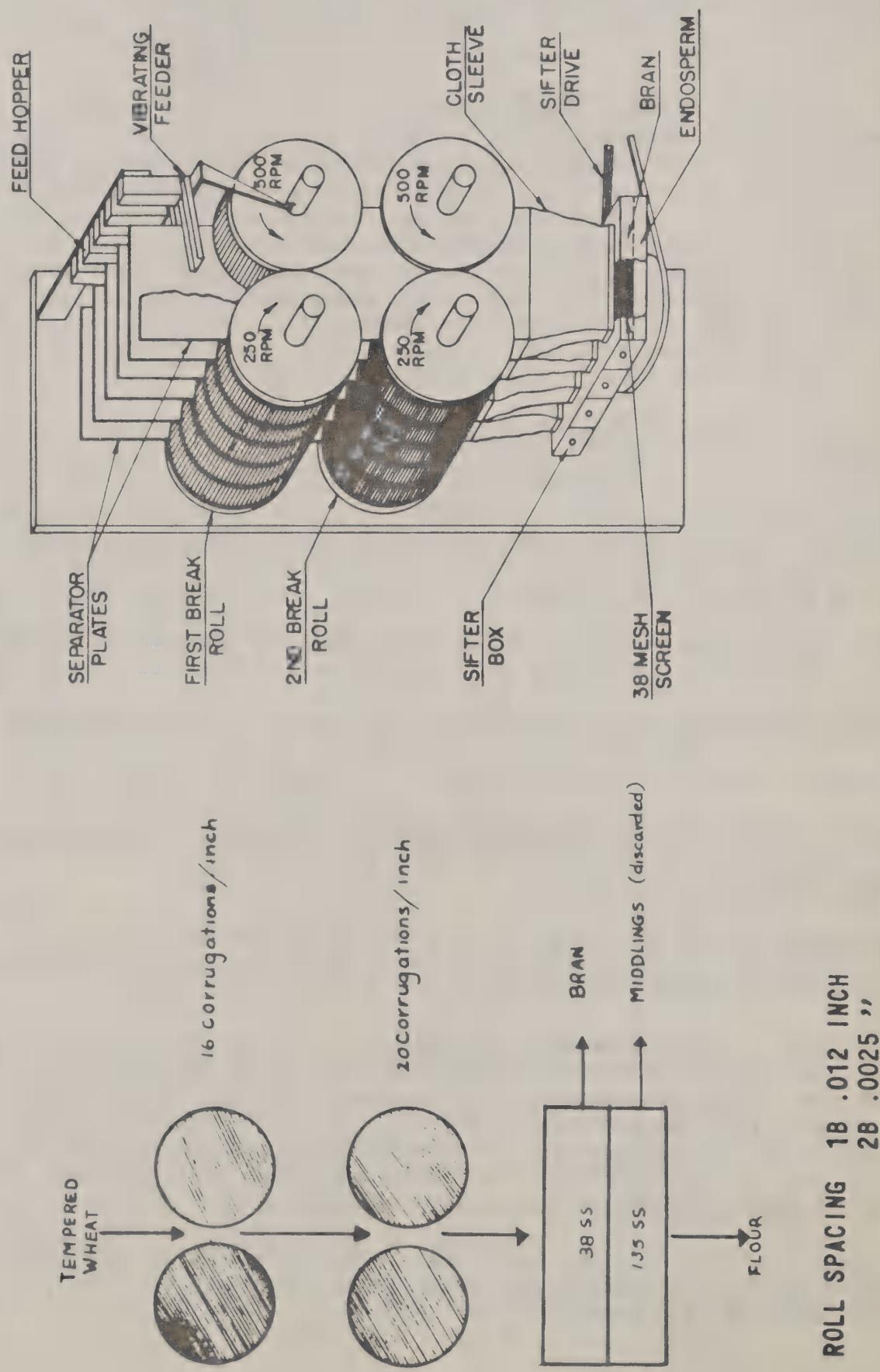


Figure 3. Schematic and flow of the micro experimental mill. Four samples are milled and sifted simultaneously and feed rate is held constant by a vibratory feeder.

## USE OF MIXOGRAM REFERENCE CHART

In addition to determining mixing time for optimum dough development by observation during baking test, mixing time and mixing tolerance, two important baking properties of wheat flour, can be determined independently from a mixogram. A mixogram is determined with 10g of flour and appropriate amount of water to give optimum absorption. It is really nothing more than a recording mixer reflecting the resistance the dough has to be mixed over a period of time. Most mixograms are run either 7 or 8 minutes which is sufficient time for most flours to give a full picture of their mixing time and to show what happens when mixing continues beyond this point (mixing peak) as reflected in the tail of the curve and commonly referred to as tolerance.

Final evaluation must be made with consideration given to the protein content of the flour, because of the effect protein content has on the mixing characteristics within the same variety. As protein increases, mixing time will decrease with an apparent increase of tolerance. To illustrate this, compare #1 high(H) with #2 medium (M) and #3 low (L) which are typical mixograms of the club wheat Paha at 12, 9, and 6% protein respectively. Similarly, 2H, 3M, and 4L are typical for Nugaines at these protein levels. Little change can be observed on any wheat above 13.0 or below 7.5% protein.

This chart will be used to identify the curve characteristics which most closely fit the sample and will be reported as numbers 1L, 1M, 1H, etc. through 8H.

## MIXOGRAM REFERENCE CHART

LOW

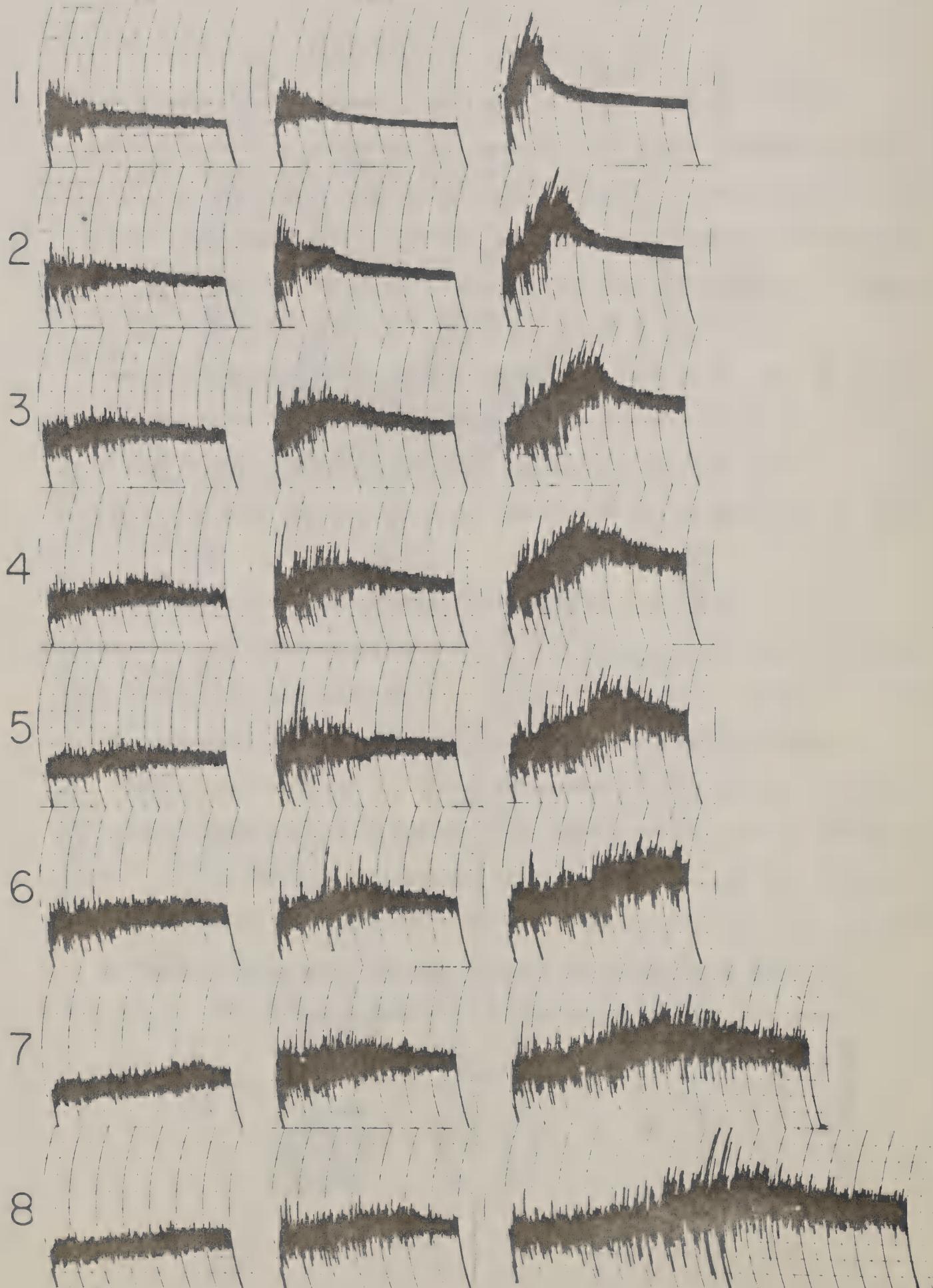
6-9%

MEDIUM

9-11%

HIGH

11-13%



Cookie Baking: 40 g of flour, micro method, using 25% absorption, 60% sugar, 30% emulsified shortening, 3% dry skim milk, 1%  $\text{NH}_4\text{HCO}_3$ , 1% NaCL, 1%  $\text{NaHCO}_3$ , was employed (8).

Cookie Diameter is the average diameter, in centimeters, of cookies baked on two separate days.

Farinograph: The Farinograph was equipped with a 50-g bowl and the Constant Flour Weight Procedure was employed (1, Method 54-21A).

Farinograph Absorption is the amount of water required to center the highest portion of the Farinograph curve on the 500 unit line.

Peak or Farinograph Mixing Time is the time interval, in minutes, from the first addition of water until the tip of the curve reaches its maximum height.

Stability of Period of Resistance is the number of minutes the top of curve remains above the 500 unit line when the highest portion (peak) is centered on the 500 unit line.

Bread Baking: An optimum absorption, optimum mixing, optimum bromate, 100 g flour and straight dough method using 7.2% yeast, 1 1/2% salt, 6% sugar, 1/4% malt extract, 4% dry milk solids, 65 ppm ascorbic acid, and 3% hydrogenated shortening was employed (5,6,7,10).

Baking Absorption: The amount of water required to make a dough of proper consistency for bread baking when mixed to optimum conditions as judged by an experienced baker using the baking method described above (4).

Mixing Time: Time in minutes required to mix the flour and the other bread dough constituents to the optimum condition as judged by an experienced baker (5).

Optimum Bromate: The amount of potassium bromate required to produce the optimum break, shred, crust, and grain characteristics of the loaf of bread (5).

Flour Color: The slurry method using 20 g of flour, 25 ml of water, stirred for 2 minutes with a glass stirring rod fitted with a 11mm policeman, and allowed to stand for 5 minutes. Reading is taken on an Agtron ( $F_2$ ) calibrated with standard color discs #63 = 0 and #85 = 100.

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Hsu, D.L., Leung, H.K., Morad, M.M., Finney, P.L. and Leung, C.T. 1982 Effect of Germination on Electrophoretic, Functional and Bread-Baking Properties of Yellow Pea, Lentil and Faba Bean Protein Isolates. *Cereal Chem.* 59(5):344-350.

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Rubenthaler, G.L., Jeffers, H.C., Kitterman, J.S., Anderson, P.D., Bettge, A.D., Finney, P.L., Baldridge, M.L. and Allen, P.A. Quality Characteristics of varieties and new selections of wheat bred and grown in the Western states, for crop year 1980. Thirty-Third Annual Report of the Western Wheat Quality Laboratory, USDA, ARS Mimeographed Publication, WRU 5802-20050-002, RDA405, January 1982.

Rubenthaler, G.L. and Faridi, H.A. Slide set and accompanied brochure entitled "Foreign Flat Breads - Fun to Make - Good to Eat. Published jointly by the Washington and Oregon Wheat Commissions.

## INVITED TECHNICAL PRESENTATIONS

Rubenthaler, G.L., 1982

Rubenthaler, G.L. 1982 Presented a review of "Collaborative work with the Japanese, Federal Grain Inspection Service, and Western Wheat Quality Lab., on tests for alpha-amylase", at FGIS Alpha-Amylase Workshop. Portland, OR, March 30.

Rubenthaler, G.L. 1982 Seminar "Function of the Western Wheat Quality Laboratory in Variety Development" to Korean Flour Milling Team, Pullman, WA, April 23.

Rubenthaler, G.L. 1982 Presented a 4 hour short course "Introduction to Cereal Chemistry" for the American Association of Cereal Chemistry, Minneapolis, MN, May 10.

Rubenthaler, G.L. 1982 Presented 8 hours of lectures "Milling Technology and Chemistry" at U.S. Wheat Associate's Cairo Milling Short course. May 15-22.

Rubenthaler, G.L. 1982 Taught a short course (4 hours) on "Milling and End-Use Quality of Soft White Wheat" to South American and Philippine Flour Millers, at the International Grains Program Short Course, Kansas State University, Manhattan, KS, May 26.

Rubenthaler, G.L. 1982 Luncheon speaker "Uses of PNW Soft White Wheat" to Pullman Rotary Club. June 2.

Rubenthaler, G.L. 1982 Seminar "Soft white wheat quality research" to Southeast Asian Cereal Chemist Team, Pullman, WA, June 6.

Rubenthaler, G.L. 1982 Seminar and tour "Western Wheat Quality Laboratory's Research and Role in Variety Development to Japanese Food Agency Team. June 21-22.

INVITED TECHNICAL PRESENTATIONS  
(con't)

Rubenthaler, G.L. 1982 Panel participant and moderator "Collaborative Test Results" at PNW Grain Council Annual Meeting, Pendleton, OR, June 23.

Rubenthaler, G.L. 1982 Presented talk "Breads from PNW Soft Wheat" Rosalia, WA, Chamber of Commerce, July 7.

Rubenthaler, G.L. 1982 Taught a short course (4 hours) "Milling and End-Use Quality of Soft White Wheats" to Korean and Taiwanese Flour millers at International Grains Program Short Course, Kansas State University, Manhattan, KS, August 4.

Rubenthaler, G.L. 1982 Hosted a tour and talk "Function of the Western Wheat Quality Laboratory in Wheat Variety Development" to 1982 Philippine Wheat Team. Pullman, WA, August 9.

Rubenthaler, G.L. 1982 Seminar "Functions of the Western Wheat Quality Laboratory in Wheat Variety Development" to South Korean Flour Millers Team. Pullman, WA, September 3.

Rubenthaler, G.L. and Faridi, H.A. 1982 Joint Paper "Bread from PNW Soft White Wheat: #2 Variety Bread" at Pacific Northwest Section of American Association of Cereal Chemists, Seattle, WA, September 24-25.

Rubenthaler, G.L. 1982 Gave a paper "Application of Experimental Baking to Research" at a Symposium, Experimental Baking: Methods and Applications, 67th Annual Meeting of AACC, San Antonio, TX, September 24-28.

Rubenthaler, G.L. 1982 Presented a talk "History and Need of the Collaborative Testing Program" to PNW Grain Council Board of Directors Meeting, Spokane, WA, October 29.

Rubenthaler, G.L. 1982 Presented a talk "Major soft white wheat uses" to Sherman County Wheat League, Moro, OR, November 18.

Rubenthaler, G.L. 1982 Presented talks "The Wheat and Flour Requirements for Japanese Udon Noodles, Japanese Sponge Cake, and Middle-Eastern Style Flat Breads" respectively, at ARS-FGIS Wheat Quality Workshop, Beltsville, MD, December 7-9.

Rubenthaler, G.L. 1982 Presented lecture "Wheat quality and its measurement" to Quality of Cereal Grains class, Dept. of Agronomy and Soils, WSU, Pullman, WA, December 15.

Jeffers, H.C., 1982

Jeffers, H.C., and Faridi, H.A. 1982 Seminar "Wheat Research Activities at the Western Wheat Quality Lab." to India Wheat Trade Team. August 6.

INVITED TECHNICAL PRESENTATIONS  
(con't)

Jeffers, H.C. 1982 Gave a paper "Some Effects of Variety, Flour Granulation and Formula on Whole Wheat Bread Production" at Pacific Northwest Section of American Association of Cereal Chemists, Seattle, WA, September 24-25.

Finney, P.L., 1982

Finney, P.L. 1982 Lectured 1 hour to International Nutrition class, Washington State University, Pullman, WA, January 12.

Finney, P.L., Faridi, H.A. and Jeffers, H.C. 1982 Seminar "Function of the Western Wheat Quality Lab in Wheat Research and Variety Development" to Egyptian Embassy Team. May 13.

Finney, P.L. 1982 Invited as 1 hour symposium speaker on "Mobilization of Reserves during Germination" at the Annual Meeting of the Phytochemical Society of North America and Europe, University of Ottawa, Canada. Paper title: Effects of Germination on Cereal and Legume Nutrient Changes and Food of Feed Value: A Comprehensive Review. August 2-6.

Western Wheat Quality Laboratory  
1981 Crop

## VISITORS

The Western Wheat Quality Laboratory Staff was pleased to have had the opportunity to meet, discuss, and give tours of our facilities with some 72 visitors this past year. Several of these people were wheat breeders, grain buyers, flour millers, students and various government officials with an interest in wheat quality. The following is a list, not all inclusive, to those who visited our facilities and signed our guest book:

W.S.U. Animal Science Department Laboratory Analysis Class	9
W.S.U. Agronomy and Soils Dept. Cereals Quality Class	14
U.S. Wheat Workers	10
<u>Foreign:</u>	
Egypt	4
Hungary	1
Korea	8
India	5
Japan	9
Malaysia	2
Thailand	1
Australia	1
Philippines	4
Hong Kong	2
Pakistan	1

EARLY GENERATION NURSERIES  
1981 Crop

NURSERY	LOCATION	BREEDER	CLASS	NUMBER TESTED	NUMBER PROMISING
Smow Mold & Quality	Pull. & Harrington	Bruehl	SWW	132	84
Soft White Winter	Ritzville	Peterson	SWW	248	150
HRS Single Plot	Pullman	Konzak	HRS	41	33
Pullman Late Clubs	Pullman	Allan	Club	138	110
Spray Trials	Pullman	Allan	SWW	417	0*
Pullman Late Soft White	Pullman	Allan	SWW	43	23
Pullman Late	Pullman	Allan	SWW	77	55
Soft White Single Plot	Pullman	Konzak	SWS	451	308
Pullman Late: "D" Series	Pullman	Allan	SWW	91	31
Pullman Late: French Wheats	Pullman	Allan	SWW	23	11
Miller Plots K's	-	Allan	SWW	316	130
Maturity Isolines	Pullman	Allan	SWW	178	76
F <sub>4</sub> Clubs	Pullman	Allan	SWW	88	80
Foot Rot (Treated)	Pullman	Allan	SWW	86	43
2-Gene Dwarfs	Pullman	Allan	SWW	63	17
Protein/Lysine	Pullman	Allan	SWW	89	50
Pullman Late: I & III	Pullman	Allan	SWW	83	0*

\* Complete Analysis were not made.



SOFT WHITE WINTER YIELD TRIALS

C. J. PETERSON

POMEROY, WA

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	CODI	CODIC	MTYPE	4/
810001	KHARKOF	C1001442	HRW	61.2	69.6	0.41	83.8	8.7	57.1	8.49	8.62	4L	
810002	WA4765//BURT/PI178383	D745318	SWW	62.4	70.2	0.45	82.0	7.3	51.5	9.02	9.06	2L	
810003	PECK SEL 17	D745325	SWW	62.4	71.5	0.40	86.8	7.4	50.9	9.22	9.27	3L	
810004	WA4765/BEZ//BT/PI178383	D003528	SWW	60.4	71.7	0.39	87.6	7.5	50.9	9.17	9.23	2L	
810005	STEPHENS	C1017569	SWW	64.0	72.7	0.38	89.5	7.6	52.3	8.89	8.95	2L	
810006	YAMHILL/HYSLOP	5/6R068007	SWW	62.0	73.7	0.43	87.7	8.1	51.0	8.95	9.07	2L	
810007	DAWS	1017419	SWW	62.4	71.1	0.40	86.2	7.5	51.4	8.90	8.95	5L	
810008	DAWS/WA5829	WA006696	SWW	64.0	71.5	0.40	86.9	7.4	52.4	8.74	8.78	5L	
810009	LUKE/WA5829 (Lewjain)	WA006363	SWW	62.8	73.2	0.41	88.3	7.7	51.1	9.29	9.36	3L	
810010	LUKE	C1014586	SWW	62.4	73.6	0.44	86.7	7.7	50.4	9.32	9.38	5L	
810011	NUGAINES	*5/1013968	SWW	62.8	70.4	0.39	85.6	7.5	50.0	9.14	9.20	2L	
810012	LUKE/VH67375	WA006813	SWW	58.4	75.1	0.41	90.7	6.5	50.4	9.72	9.67	5L	
810013	TYEE	C1017773	CLUB	59.6	73.9	0.45	86.8	6.7	51.3	9.15	9.13	5L	
810014	SEMI DWARF MULTILINE CLUB	WA006472	CLUB	61.2	73.7	0.50	83.2	8.3	48.8	9.10	9.19	1L	
810015	FARO	C1017590	CLUB	61.2	73.0	0.45	85.1	8.1	49.2	9.00	9.08	1L	
810016	BARBEE	C1017417	CLUB	60.4	71.4	0.44	83.8	7.6	47.8	9.75	9.79	1L	
810017	JACMAR	WA006585	CLUB	62.0	74.4	0.44	87.9	7.9	49.1	9.37	9.44	2L	
810018	SW92/6*0//3/T. SPELTA/CTL//3*0	WA006698	CLUB	64.0	74.0	0.47	85.2	8.3	47.3	9.02	9.12	1L	
810019	VD76217//VB67297, C13645/GNS	WA006581	CLUB	63.6	72.7	0.45	84.9	8.1	48.5	9.05	9.13	1L	
810020	SW92/3*OMAR//MORO, 142	OR007142	CLUB	62.8	73.8	0.47	85.3	7.9	48.4	9.02	9.09	1L	
810021	{VB71221, 101/ODIN//C113645/101)/M722712 6/	WA006814	CLUB	59.6	75.0	0.48	86.2	7.6	48.9	9.35	9.39	1L	
810022	ELGIN	C1011755	CLUB	62.8	74.4	0.48	85.0	8.4	47.0	9.50	9.60	1L	
810023	MORO	C1013740	CLUB	61.2	74.9	0.45	87.5	8.5	48.3	9.51	9.65	2M	
810024	REW/LUKE, SEL. 305	5/ OR0007794	SWW	62.8	72.8	0.45	87.5	7.6	50.8	9.06	9.13	2L	
810025	YAYLA/YMHL/RIEB/YMH/3/REW	5/ OR0007794	SWW	65.2	73.9	0.45	86.6	8.3	49.3	9.17	9.32	2L	
810026	NORCO/MORO, SEL. E109	SWW	62.4	73.9	0.43	87.8	8.4	49.7	9.05	9.20	2L		
810027	PAHA/OR6857, SEL. 204	*5/ OR0007792	SWW	62.8	74.6	0.43	88.6	8.6	47.4	9.07	9.25	2L	
810028	BR 77-294	*5/ VM801046	SWW	63.2	73.2	0.40	88.9	8.2	49.6	9.07	9.21	2M	
810029	BR 99	VM801047	HRW	63.2	72.9	0.35	90.3	9.8	56.4	8.45	8.67	6L	
810030	BR 77-13	6/ VM801048	SWW	61.2	72.0	0.44	84.7	8.5	50.5	9.55	9.71	5L	
810031	BVR/C115923//NGS	*5/ VH074575	SWW	62.8	74.4	0.44	88.0	7.0	49.8	9.46	9.46	5L	
810032	LUKE//VH68310, 192336/101	VH076297	SWW	60.4	70.8	0.46	81.6	6.7	50.7	9.45	9.42	2L	
810033	C114484/BR702412//RPB6120	*5/ VH076429	SWW	62.0	74.8	0.44	88.0	6.6	50.7	9.56	9.52	2L	
810034	VH1566437//VHT71517, WA4877//P194540	6/ VH078119	SWW	64.4	71.9	0.44	84.3	7.2	52.1	9.34	9.36	2L	
810035	VH1566437//VD71388	VH078123	HWW	64.0	70.5	0.46	82.0	7.2	59.1	8.45	8.47	8L	



G. J. PETERSON

POMEROY WA



LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE
					<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>3/</u>	<u>4/</u>		
810071	BARBEE/3/(VD74237,C59285/1C1//BARBEE)	6/ VD080034 5/ VD080049	CLUB	62.0	72.8	0.41	87.6	7.2	49.7	9.46	9.48	1L
810072	WA6145/CERCO	CLUB	60.4	74.1	0.43	88.3	6.9	51.7	9.15	9.14	3L	
810073	WA6146/1D72001	CLUB	62.0	71.4	0.42	85.5	8.0	50.5	9.59	9.66	1L	
810074	(VD74237,C59285/101//BARBEE)/3/VH74340*5/ VJ080156	CLUB	62.8	72.9	0.45	85.2	8.3	51.2	9.44	9.53	2M	
810075	(VJ74558,LUKE/COULEE)//LUKE	SWW	56.8	73.9	0.39	90.1	6.8	49.7	9.51	9.49	5L	
810076	LUKE/WA6145	SWW	60.0	74.2	0.45	86.8	7.0	49.8	9.37	9.37	3L	
810077	LUKE/WA6361	SWW	59.2	71.6	0.41	86.0	6.9	49.9	9.40	9.39	3L	
810078	LUKE/WA6361	SWW	62.0	72.4	0.39	88.5	6.9	49.7	9.62	9.61	3L	
810079	LUKE//(AM73120,SEL 1/2*JOEL)	SWW	59.6	72.7	0.41	87.4	7.3	50.3	9.30	9.33	5L	
810080	LUKE/1D72	SWW	63.6	72.5	0.44	85.5	8.0	51.5	9.07	9.18	3L	
810081	SPRAGUE/STEPHENS	6/ VH080219 5/ VD080234	SWW	61.6	72.8	0.43	86.3	7.2	51.4	9.22	9.25	2L
810082	PECK/3/(VH73385,C113645/GNS//C114484)	5/ VD080287 6/ VD080294	SWW	60.4	69.2	0.42	82.6	7.8	51.1	9.32	9.41	4L
810083	WA6146/LUKE	SWW	60.0	72.8	0.39	88.7	7.1	49.9	9.39	9.40	2L	
810084	WA6146/DAWS	SWW	62.0	71.0	0.40	85.8	6.8	52.1	8.90	8.88	5L	
810085	WA6146/CERCO	HWW	63.2	69.6	0.39	84.5	6.9	56.1	8.67	8.67	5L	
810086	NORCO/3/(VD74260,LUKE//ELGIN/178383)	5/ VD080310 5/ VD080368	SWW	58.0	72.7	0.41	87.4	6.8	50.5	9.51	9.49	2L
810087	WA6470/SEL 2142	SWW	63.2	73.3	0.41	88.1	6.9	51.6	9.17	9.16	2L	
810088	(VH74340,C114484/66344//LUKE)/3/NORCO	5/ VD080390 5/ VD080085	SWW	67.4	73.7	0.44	87.2	7.0	53.5	9.11	9.11	5L
810089	NS-622//VJ74435,VD68245//LUKE	*5/ VD080408	SWW	62.4	72.4	0.41	87.0	8.9	51.4	8.96	9.17	1M
810090	(VH74478,VH68266/LUKE)/VJ74435	5/ VD080408	SWW	63.6	75.6	0.37	93.8	7.6	51.6	9.25	9.32	4L
810091	(VH74482,VH68266//LUKE)/DAWS	6/ VD080412	SWW	64.4	72.7	0.39	88.7	6.6	53.9	9.17	9.13	4L
810092	(V74050,CB73-014/WA6146)/CERCO	5/ VD080468	HWW	63.2	70.8	0.40	85.3	6.9	57.1	8.31	8.30	5L
810093	(V74534,NUGAINES/PI167406)/LUKE	5/ VD080483 5/ VD080487	SWW	61.2	74.4	0.45	87.3	5.5	54.0	9.20	9.03	1L
810094	MARIS HUNTSMAN/DAWS	SWW	60.8	74.6	0.42	89.1	5.7	51.7	8.99	8.84	5L	
810095	MARIS HUNTSMAN/VH74521	SWW	62.4	72.2	0.42	86.1	6.4	53.5	9.10	9.03	2L	
810096	OLYMPIA/CERCO	*5/ VD080505 5/ VD080544	SWW	61.6	74.0	0.38	91.4	5.5	52.7	9.59	9.42	5L
810097	SPRAGUE/T 7589-PILLAN	SWW	64.0	72.3	0.43	85.6	7.9	53.4	8.76	8.86	3L	
810098	BR 80-112 (SPR/CAPELLE/SPR)	5/ VD081759 5/ VD080708	SWW	63.2	73.5	0.41	88.3	8.1	51.5	9.17	9.30	2L
810099	(VH72675,OR6739/NGS)/CERCO	*5/ VD080709	SWW	62.4	72.8	0.38	89.5	7.6	50.3	8.82	8.89	1L
810100	WA6145/RAEDER	SWW	60.4	74.7	0.43	88.7	7.5	49.8	9.40	9.45	2L	
810101	NORCO/CB73-233	5/ VD080715 5/ VD080717	SWW	62.0	72.4	0.39	88.5	7.2	52.2	9.14	9.16	5L
810102	NORCO/3/(VH72297,NGS/101//172582)	SWW	61.6	72.2	0.41	87.0	6.5	53.0	9.15	9.09	5L	
810103	(V73254,VH68245/WA5829)/CERCO	5/ VD080728 5/ VD080741	SWW	60.0	73.9	0.41	89.3	6.8	53.3	8.79	8.77	3L
810104	(V73376,MAYA-ARMS/WA5835)/VH72588	5/ VD080833	SWW	62.0	75.7	0.42	90.8	7.3	53.2	9.40	9.43	4L
810105	77 WHITE SEADED CERCO MUTANT	6/ VD080833	SWW	58.0	72.1	0.43	85.2	7.0	53.6	8.85	8.85	4L



C. J. PETERSON

POMEROY, WA

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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE
					<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>3/</u>	<u>4/</u>		
810106	NORCO/1D72001	*5/V1801015	SWW	58.8	70.4	0.42	84.1	7.1	54.2	9.11	9.12	3L
810107	WA6145/CERCO	*5/VM801031	SWW	60.8	74.7	0.41	90.0	6.5	51.0	9.45	9.39	5L
810108	{VD74260, LUKE//ELGIN/178383)/3/LUKE	*5/VM801034	SWW	60.0	74.6	0.38	91.9	6.1	51.9	9.61	9.51	4L
810109	WA6145/CERCO	*5/VJ080121	SWW	61.2	74.4	0.40	90.4	6.7	51.2	9.27	9.24	5L
810110	WA6240/NORCO	*5/VJ080129	SWW	63.6	73.3	0.37	90.6	6.5	51.0	9.40	9.34	1L
810111	LUKE/3/(VJ74572, BVR/NGS//NORCO)	5/VH080203	SWW	62.0	73.6	0.42	88.3	6.2	52.2	9.27	9.19	3L
810112	SPRAGUE//AM73120, SEL 1/2*JOEL	5/VH080224	SWW	62.0	72.5	0.40	87.9	7.5	50.3	8.92	8.98	2L
810113	PECK//LUKE	5/VH080228	SWW	62.4	72.4	0.42	86.7	6.3	52.0	9.47	9.40	2L
810114	VH74283/3/(VD74260, LUKE//ELGIN/178383)	5/VH080355	HWW	63.6	73.5	0.42	87.2	6.4	55.9	8.75	8.70	2L
810115	(VH74340, 14484/VH66344//LUKE)/SELM652124	*5/VH080401	SWW	59.6	74.0	0.42	88.9	7.1	51.7	9.51	9.52	3L
810116	(V74052, CB73-054/WA6146)//LUKE	*5/VH080471	SWW	62.4	73.9	0.39	90.3	7.1	51.8	9.16	9.17	3L
810117	MARCO//LUKE	*5/VH080513	SWW	62.4	76.7	0.40	93.1	7.4	51.7	9.49	9.53	2L
810118	(V73319, RAEDER//SEL 1/2*JOEL)/3/WA6146	*5/VH080733	SWW	60.8	71.3	0.42	85.3	7.1	53.0	8.89	8.90	4L
810119	MARIS NIMROD//VH72588, WA4989/WA4979	*5/VH080752	SWW	62.4	74.8	0.42	89.7	6.8	52.5	8.97	8.95	2L
810120	YAMHILL/VH68310//CERC0	5/VH076472	SWW	62.4	73.2	0.44	86.4	7.7	51.2	9.39	9.46	3L

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 7% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 7% Protein.

COMMENTS: This group of experimental wheats have many extra ordinary good quality selections among them. Those noted with an asterisk are outstanding and are listed below, and there are many others very satisfactory.  
VH79245 (Lab. No. 810047) is hard endosperm, but performed well in cookie baking.

LOW FLOUR YIELD LOW MILLING SCORE POOR COOKIE

ID745318	X	X	X
VM801047 (HRW)			
VH076297	X	X	X
VH078123 (HWW)	X	X	X
VH078367 (HWW) (Lab No. S 810039 and 810053)	X	X	X
VH079155			
VH079309 (HWW)			
VD80587	X	X	X



	LOW FLOUR YIELD	LOW MILLING SCORE	POOR COOKIE
VD80057		X	
VH80234	X	X	
VH80301 (HWW)	X	X	X
VH80468 (HWW)	X	X	X
VI801015	X	X	
VH80355		X	

\* Outstanding: WA68013, OR7792, VM801046, VH74575, VH76429,  
 VH79121, VH79273, VH078879, VH79742, VH78025,  
 VH79056, VJ80156, VH80408, VH80505, VH80709,  
 VH80741, VM801031, VM801034, VJ80121, VJ80129,  
 VH80401, VH80471, VH80513, VH80752



NURSCO 2 C.J. PETERSON

POMEROY, WA

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
810121	KHARKOF	C1001442	HRW	62.0	70.6	0.40	85.4	11.4	59.9	2M
810122	WANSER	C1013844	HRW	62.4	72.5	0.38	88.4	12.0	59.1	3M
810123	WESTON	C1017727	HRW	63.2	70.8	0.35	88.1	12.6	59.1	2H
810124	BEZOSTAJA//BURT/178383/3/ARK	ID051021	HRW	62.0	71.3	0.37	87.4	12.6	60.6	2H
810125	BEZOSTAJA//BURT/178383/3/ARK	ID051022	SRW	60.8	66.8	0.38	83.0	13.4	59.7	2M
810126	SN64/11-60-155//HELGAR/3/WRR//KO/178383	ID000178	HRW	60.8	69.1	0.38	84.9	12.0	59.0	6M
810127	TRIUMPH/LANCER, SEL. 126	OR000792	SRW	60.4	68.6	0.43	81.9	11.3	56.2	4M
810128	FRD/BEZ	MT077002	HRW	61.6	73.0	0.39	88.1	11.7	57.6	3M
810129	C 61-9/WLT//CRT	6/ MT077066	HRW	62.0	71.4	0.43	84.6	11.3	58.6	2M
810130	C 61-9/WLT//CRT	6/ MT077077	HRW	62.0	72.2	0.40	87.1	11.7	58.0	2M
810131	BEZOSTAJA/SPRAGUE, SEL. 18-24	OR007921	HRW	62.0	70.7	0.37	86.7	10.6	56.9	2M
810132	CLARIFEN/WA5836, SEL. 27-26	OR007925	HRW	59.6	70.7	0.40	85.5	8.1	57.1	4L
810133	BEZOSTAJA/REW, SEL. 42-31	OR007930	SRW	60.4	73.1	0.40	89.5	11.5	54.1	2L
810134	2CNN/PI178383/3/WRR//KO/PI178383	6/ ID000215	HRW	58.0	72.9	0.41	87.2	10.5	57.1	4M
810135	SM4/TD/3*1T/PI178383	6/ ID000216	HRW	63.2	73.5	0.42	87.3	11.1	55.9	3M
810136	A667W-46/RANGER	ID000217	HRW	63.6	74.0	0.38	89.7	11.1	56.6	3M
810137	C14106/MC/3/WRR//KO/PI178383	ID000218	HRW	60.4	72.8	0.39	87.9	11.5	58.3	3M
810138	14106/CLM//MC/5//FROGR//FRN/YQ/3/WSR/4/MC	ID000219	6/	63.2	72.5	0.41	86.6	11.0	60.6	4H
810139	14106/CLM//MC/4/PJ/Y54//TD/3/1T	ID000220	HRW	62.4	70.9	0.39	86.1	10.2	59.9	6M
810140	N10/B//12932/3/D/4/N10/B//D/3/CREST...5/	UT119416	HRW	62.0	73.4	0.38	89.3	10.8	60.2	3M
810141	N10/B//12932/3/D/4/N10/B//D/3/CREST...5/	UT119402	HRW	60.4	71.0	0.39	86.0	11.4	61.4	3M
810142	DLM/173438//CLM/3/DLM/4/CR/5/WRR/C113837	UT122275	6/	60.4	70.8	0.42	84.5	10.8	59.5	6M
810143	WA4765/3/BEZOSTAJA//BURT/178383	ID003518	SRW	57.6	71.3	0.46	83.8	11.9	57.7	6M
810144	173467/GNS//WSR/4/N10/BVR14//2*BT/3/YOGO	WA006815	HRW	62.0	73.1	0.36	89.8	11.5	59.1	3M
810145	ID 5012/WA5866	WA006816	HRW	57.6	70.8	0.45	82.8	10.5	59.1	3M
810146	WA5840/CERCO	WA006817	HRW	58.8	72.3	0.41	86.3	9.0	58.1	6L
810147	173467/101//MCCALL/3/CARDON	6/ WA006818	HRW	61.2	72.8	0.39	88.1	10.1	60.0	4M
810148	HATTON	C1017772	HRW	65.2	75.9	0.40	90.7	10.4	60.8	4M



LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR REMARKS	
									3/	4/
810121	KHARKOF	C10011442	HRW	61.5	61.1	1.6	855	832	4	
810122	WANSER	C1013844	HRW	61.3	60.3	2.3	950	881	2	
810123	WESTON	C1017727	HRW	62.9	61.3	2.2	1100	1001	2	<i>Q-BAKING</i>
810124	BEZOSTAJA//BURT/178383/3/ARK	ID051021	HRW	65.4	63.8	2.3	970	871	2	<i>P-MILL (SOFT RED)</i>
810125	BEZOSTAJA//BURT/178383/3/ARK	ID051022	SRW	64.3	61.9	2.0	1175	1031	2	
810126	SN64/11-60-155//HELGAR/3/WRR//KO/178383	ID000178	HRW	62.2	61.2	2.9	1050	988	2	<i>P-MILLING</i>
810127	TRIUMPH/LANCER, SEL. 126	OR000792	SRW	58.7	58.4	3.1	1005	987	2	<i>P-MILL (SOFT RED)</i>
810128	FRD/BEZ	MT077002	HRW	62.0	61.3	3.1	885	842	2	<i>P-BAKING&amp;LVOL</i>
810129	C 61-9/WLT//CRT	MT077066	HRW	61.1	60.8	2.1	1030	1011	2	
810130	C 61-9/WLT//CRT	MT077077	HRW	60.9	60.2	2.0	1100	1057	2	
810131	BEZOSTAJA/SPRAGUE, SEL. 18-24	OR007921	HRW	58.7	59.1	1.7	860	885	5	<i>P-LVOL&amp;BCRGR</i>
810132	CLARIFFEN/WA5836, SEL. 27-26	OR007925	HRW	58.4	61.3	4.6	710	890	9	<i>P-MILL, LVOL&amp;BCRGR</i>
810133	BEZOSTAJA/REW, SEL. 42-31	OR007930	SRW	56.8	56.3	2.2	875	845	6	<i>P-LVOL&amp;BCRGR</i>
810134	2CNN/PI178383/3/WRR//KO/PI178383	ID000215	HRW	59.8	60.3	2.8	1050	1081	2	
810135	SM4/TD/3*1T/P178383	ID000216	HRW	60.2	60.1	2.5	960	954	2	<i>Q-LVOL</i>
810136	A667W-46/RANGER	ID000217	HRW	60.7	60.6	3.3	908	902	2	<i>P-LVOL</i>
810137	C14106/MC/3/WRR//KO/PI178383	ID000218	HRW	64.0	63.5	3.6	860	829	4	<i>P-LVOL&amp;BCRGR</i>
810138	14106/CLM//MC/5/FROCR//FRN/YQ/3/WSR/4/MC	ID000219	HRW	65.3	65.3	3.3	985	985	2	
810139	14106/CLM//MC/4/PJ/Y54//TD/3/1T	ID000220	HRW	63.3	64.1	4.2	915	965	3	<i>Q-MILLING&amp;LVOL</i>
810140	N10/B//12932/3/D/4/N10/B//D/3/CREST***	UT119416	HRW	63.2	63.4	2.5	1005	1017	2	
810141	N10/B//12932/3/D/4/N10/B//D/3/CREST***	UT119402	HRW	63.3	62.9	2.6	1065	1040	1	<i>Q-MILLING</i>
810142	DLM/173438//CLM/3/DLM/4/CR/5/WRR/C13837	UT122275	HRW	64.0	64.2	3.8	985	997	2	<i>P-MILL (SOFT RED)</i>
810143	WA4765/3/BEZOSTAJA//BURT/178383	ID003518	SRW	61.8	60.9	5.8	1055	1001	1	<i>P-LVOL&amp;BCRGR</i>
810144	173467/GNS//WSR/4/N10/BVR14//2*BT/3/YOGO	WA006815	HRW	61.8	61.3	2.3	950	919	5	<i>P-MILLING&amp;BCRGR</i>
810145	ID 5012/WA5866	WA006816	HRW	61.8	62.3	2.4	1020	1051	6	
810146	WA5840/CERCO	WA006817	HRW	61.1	63.1	5.2	770	894	6	<i>P-LVOL&amp;BCRGR</i>
810147	173467/101/MCCALL/3/CARDON	WA006818	HRW	62.3	63.2	2.8	1005	1061	2	
810148	HATTON	C1017772	HRW	63.4	64.0	3.0	985	1022	2	

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 11% Protein.

3/ Observed Values Corrected to 11% Protein.

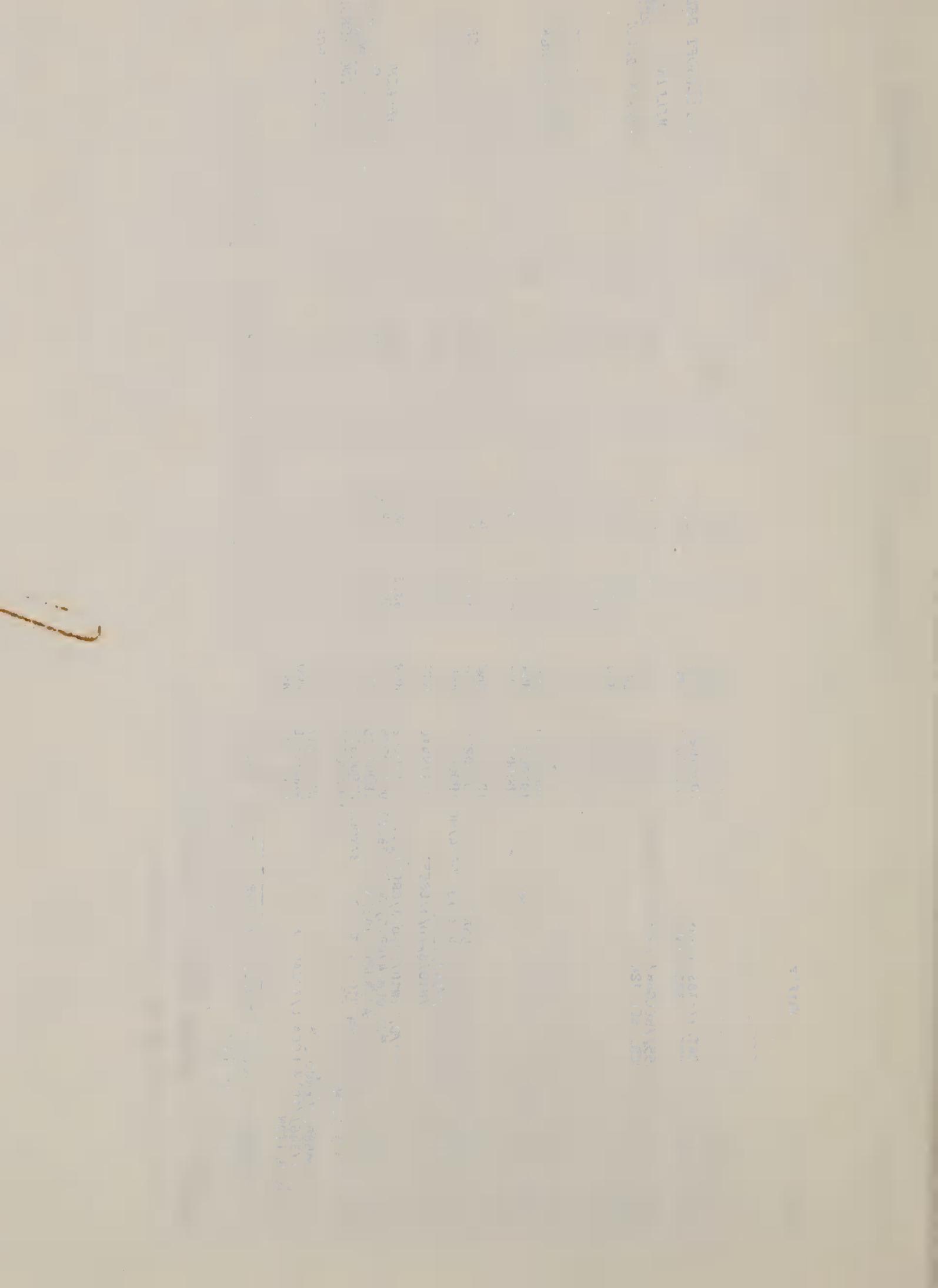
4/ Observed Values Corrected to 11% Protein.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.

COMMENTS: See REMARKS column for specific deficiencies.

\* NOTE: P = Poor and Q = Questionable



NURSCO 3

DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS *	TWT	FYLD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
810149		110-E1	HRW	63.9	71.8	0.42	83.9	8.8	55.3	2M
810150		110-E2	HRW	61.9	70.7	0.49	78.8	8.3	56.2	3M
810151		110-E3	HRW	64.1	70.2	0.47	79.2	9.5	58.2	2H
810152		110-E5	HRW	65.3	73.1	0.38	88.6	11.1	60.1	2H
810153		5/ 110-E8	HRW	65.0	73.0	0.41	86.4	10.1	59.8	3H
810154		110-E9	HRW	63.7	71.9	0.44	83.5	8.8	56.9	3M
810155		110-E10	HRW	64.1	72.1	0.41	85.2	9.6	59.0	3M
810156		110-E11	HRW	62.4	69.8	0.41	81.3	9.7	58.3	3M
810157		110-E12	HRW	63.8	70.9	0.44	81.3	9.8	58.2	4M
810158		110-E13	HRW	63.6	71.9	0.40	85.4	9.3	57.9	2M
810159		6/ 110-E14	HWW	63.2	67.2	0.43	74.9	9.3	63.2	4M
810160		6/ 110-E16	HRW	64.0	71.5	0.41	83.5	10.1	60.1	4H
810161		5/ 110-E18	HWW	63.9	64.6	0.41	72.1	9.2	61.0	6M
810162		5/ 110-E19	HRW	62.7	71.0	0.42	82.7	10.1	60.7	3M
810163		5/ 110-E20	HRW	62.8	70.5	0.41	82.7	9.4	59.3	2M
810164		6/ 110-E23	HRW	64.2	71.7	0.45	82.3	9.8	60.8	2H
810165		6/ 110-E24	HRW	63.5	71.7	0.46	81.5	10.2	60.1	2H
810166		110-E28	HRW	63.9	69.4	0.48	77.2	9.8	59.3	2H
810167		110-E32	HRW	64.5	70.4	0.44	80.9	10.2	60.0	2H
810168		110-E33	HRW	63.4	70.2	0.44	80.1	9.3	58.7	2M
810169		110-E34	HRW	63.3	69.1	0.44	78.5	9.4	59.1	6M
810170	ANZA E36	C1015284	HRW	64.0	71.1	0.42	82.9	9.1	58.2	2M
810171	YECORA ROJO	E37	HRW	64.1	71.8	0.44	83.0	10.7	60.6	5H
810172	SHASTA E38	—	HRW	64.2	71.9	0.45	82.5	10.3	59.4	4M
810173	UC 353	110-E39	HRW	62.8	71.7	0.43	83.0	9.4	58.6	3M
810174	UC 355		HRW	63.0	69.9	0.41	81.0	10.4	58.2	2H
810175		110-E41	HRW	64.6	70.2	0.40	82.3	9.6	59.1	3M
810176		110-E42	HRW	63.0	70.0	0.41	81.2	10.5	57.8	2M
810177		110-E46	HRW	62.9	68.9	0.43	78.8	10.0	58.7	2M
810178		6/ 110-E48	HRW	63.3	70.3	0.43	81.3	10.6	58.7	3M
810179		6/ 110-E49	HRW	64.9	72.4	0.41	85.0	10.0	60.3	2H
810180		6/ 110-E54	HWW	62.4	70.2	0.43	80.9	9.7	61.1	4H
810181		6/ 110-E64	HWW	63.3	70.1	0.43	81.0	10.4	60.3	5H

1/ Observed Values Corrected to 14% Moisture Basis.

5/ Particularly Promising Overall Quality Characteristics.

3/ Absorption at 14% Moisture Corrected to 10% Protein.

6/ Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 10% Protein.



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NURSCO 3

DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR REMARKS **	
									LVOL	BCRGR
810149		110-E1	HRW	58.3	59.5	2.6	675	749	8	P-LVOL&BCRGR
810150		110-E2	HRW						2	P-MILLING
810151		110-E3	HRW	62.4	61.3	2.0	950	882	2	P-MILLING
810152		110-E5	HRW	62.1	62.0	2.7	925	919	2	
810153		110-E8	HRW							
810154		110-E9	HRW	57.9	59.1	2.2	750	824	9	P-LVOL&BCRGR
810155		110-E10	HRW	59.8	60.2	1.8	830	855	6	P-LVOL&BCRGR
810156		110-E11	HRW	60.2	60.5	2.3	835	854	6	P-MILL, LVOL&BCRGR
810157		110-E12	HRW	60.2	60.4	3.2	800	812	5	P-MILL, LVOL&BCRGR
810158		110-E13	HRW							P-DOUGH MIXING
810159		110-E14	HWW	62.9	62.8	3.0	865	859	2	P-VERY POOR MILL
810160		110-E16	HRW						2	P-VERY POOR MILL
810161		110-E18	HWW	63.0	62.9	2.5	975	969	2	P-DOUGH MIXING
810162		110-E19	HRW							
810163		110-E20	HRW							
810164		110-E23	HRW	62.8	63.0	2.5	920	932	5	Q-BCRGR
810165		110-E24	HRW	63.5	63.3	2.6	920	908	2	P-MILLING
810166		110-E28	HRW						2	P-MILLING
810167		110-E32	HRW	62.4	62.2	2.3	890	878	6	P-MILLING & BCRGR
810168		110-E33	HRW							
810169	ANZA E36	110-E34	HRW	59.5	60.4	2.0	755	811	8	P-VERY POOR MILL
810170	YECORA ROJO E37	C1015284	HRW	65.5	64.8	4.8	995	952	2	
810171			HRW	62.4	62.1	2.8	860	841	3	Q-DOUGH MIXING
810172	SHASTA E38	C1003976	HRW							P-MILLING
810173		110-E39	HRW							
810174		110-E40	HRW	60.9	61.3	2.1	750	775	8	P-LVOL&BCRGR
810175		110-E41	HRW						2	P-MILLING
810176		110-E42	HRW						3	P-VERY POOR MILL
810177		110-E46	HRW							Q-MILLING&LVOL
810178		110-E48	HRW							
810179		110-E49	HRW	61.8	61.8	2.3	903	903	3	Q-BCRGR
810180		110-E54	HWW	63.0	63.3	3.0	885	904	2	P-MILLING
810181		110-E64	HWW	62.9	62.5	4.3	975	950	2	Q-MILLING

COMMENTS: Following milling and mixogram tests the data was screened for acceptable milling and dough mixing properties (required for breadmaking) and those that looked promising were baked and evaluated. See the REMARKS column for deficiencies of the selection not identified as promising in overall quality.

\* NOTE: These should be classified as Spring wheat (HRS or HWS). \*\* P = Poor and Q = Questionable



C.O. QUALSET

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NURSCO 4



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C. O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	REMARKS
										4/
810182		111-E3	HRW	63.1	63.0	3.0	955	949	2	
810183		111-E4	HRW	64.1	63.5	2.3	1045	1008	1	
810184		111-E5	HRW	63.6	63.1	2.5	1053	1022	2	P-BCRGR
810185		111-E6	HRW	63.6	63.5	4.1	935	929	4	
810186		111-E7	HRW	62.0	61.6	3.2	940	915	2	
810187		111-E8	HRW	63.6	63.9	4.6	850	869	6	P-MILLING
810188		111-E9	HRW	61.4	61.3	1.9	885	879	2	P-MIX TM. & LVOL
810189		111-E10	HRW	63.9	64.2	3.0	935	954	2	
810190		111-E11	HRW	62.9	62.5	2.9	1010	985	1	
810191		111-E12	HRW	62.4	61.9	3.1	985	954	1	
810192		111-E14	HRW	62.5	62.2	2.7	950	931	2	Q-MILLING
810193		111-E15	HRW	63.0	62.5	3.3	995	964	2	Q-MILLING
810194		111-E16	HRW	62.2	62.4	3.1	900	912	2	Q-LVOL
810195		111-E17	HRW	63.0	63.3	3.7	880	899	2	
810196		111-E21	HRW							P-Dough Mixing
810197		111-E22	HRW	61.6	61.7	2.6	915	921	3	Q-MILL & BCRGR
810198		111-E23	HRW	60.0	61.0	2.4	855	917	4	Q-BCRGR
810199		111-E24	HRW	61.1	61.2	2.7	925	931	2	Q-MILLING
810200		111-E27	HRW	64.5	63.9	2.9	995	958	1	
810201		111-E28	HRW	65.5	64.4	4.1	915	847	2	P-LVOL
810202		111-E29	HRW	62.2	61.8	2.9	933	908	3	Q-MIL & BCRGR
810203		111-E30	HRW	61.2	61.5	2.1	940	959	2	
810204	ANZA E31	CI015284	HRW	61.4	61.7	1.9	910	929	4	
810205	YECORA ROJO	E32 —	HRW	64.7	63.7	5.6	985	923	2	— Q-BCRGR
810206		111-E33	HRW	62.6	61.8	2.5	1015	965	1	
810207		111-E34	HRW	62.1	61.9	2.0	935	923	4	P-DOUGH MIXING
810208		111-E35	HRW	65.6	64.5	4.3	1005	937	2	
810209		111-E36	HRW	62.0	62.1	2.4	925	931	2	Q-DOUGH MIXING
810210		111-E37	HRW	60.9	60.5	1.9	948	923		
810211		111-E38	HRW							
810212		111-E39	HRW	62.0	62.0	2.5	960	960	2	P-LVOL & BCRGR
810213		111-E40	HRW	62.2	62.3	2.2	865	871	6	
810214		111-E41	HRW	62.5	61.8	2.2	1000	957	2	P-BCRGR
810215		111-E42	HRW	61.9	62.2	2.7	905	924	6	P-DOUGH MIXING
810216		111-E44	HRW							



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WESTERN WHEAT QUALITY LAB.  
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EXPERIMENT 111

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NURSCO 4  
C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH <u>1/</u>	MSCOR	FPROT <u>1/</u>	MABSC <u>3/</u>	MTYPE
810217	6/111-E46	HRW	64.0	72.4	0.42	86.0	9.8	61.1	7M	
810218	6/111-E47	HRW	63.6	72.4	0.42	86.1	10.8	59.0	4H	
810219	6/111-E48	HRW	63.2	72.6	0.43	85.6	10.5	61.7	3H	



NURSCO 4

DAVIS, CA

C. O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	REMARKS **
810217		111-E46	HRW	64.6	64.8	4.2	905	917	4	Q-BCRGR
810218		111-E47	HRW	63.5	62.7	3.5	945	895	2	Q-BCRGR
810219		111-E48	HRW	64.4	63.9	2.7	940	909	4	Q-BCRGR

1/ Observed Values Corrected to 14% Moisture Basis.    5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 10% Protein.    6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 10% Protein.

COMMENTS: Three of the selections were not baked because of poor dough mixing properties determined by the mixogram. Several of these selections are good to outstanding in overall quality. See the REMARKS column for deficiencies or properties that appear questionable.

\* NOTE: These should be classified as spring wheats (HRS).

\*\* P = Poor and Q = Questionable



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DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC
					1/	1/		3/			4/
810220											
810221	6/ 109-E1	SWW	64.4	70.9	0.47	81.0	10.7	57.0	8.64	8.71	
810222	109-E2	HWW	64.4	69.3	0.42	83.1	10.7	61.2	8.30	8.36	
810223	109-E3	HWW	64.4	69.5	0.42	83.1	10.5	60.6	8.39	8.43	
810224	109-E4	SWW	64.0	69.9	0.44	82.1	10.7	56.9	8.56	8.64	
	109-E5	HWW	64.0	68.9	0.42	82.2	10.6	58.9	8.32	8.37	
810225											
810226	6/ 109-E6	HWW	64.4	67.8	0.43	81.0	10.4	59.6	8.11	8.14	
810227	109-E7	HWW	64.4	68.6	0.43	81.6	10.4	60.4	8.25	8.28	
810228	109-E8	SWW	63.2	70.2	0.44	82.5	10.6	56.8	8.69	8.75	
810229	109-E9	HWW	64.8	68.9	0.41	82.7	10.5	61.1	8.32	8.36	
	109-E10	HWW	64.8	68.6	0.42	82.3	10.5	61.5	8.32	8.36	
810230											
810231	6/ 109-E11	HWW	65.6	70.3	0.38	85.8	11.0	60.7	8.41	8.49	
810232	109-E12	HWW	64.8	68.7	0.40	83.5	11.1	60.2	8.19	8.28	
810233	109-E16	SWW	63.6	71.3	0.43	84.5	9.4	56.9	9.02	8.96	
810234	109-E21	SWW	64.4	70.4	0.45	81.9	9.7	56.2	8.70	8.67	
	109-E47	SWW	64.0	70.8	0.42	84.7	9.6	56.3	8.81	8.77	
810235											
810236	6/ 109-E48	SWW	65.2	67.8	0.41	81.4	10.5	56.3	8.86	8.92	
810237	109-E49	SWW	62.8	70.6	0.42	84.1	10.0	56.7	8.97	8.97	
810238	109-E52	SWW	63.2	70.9	0.43	84.3	9.8	56.5	8.81	8.79	
810239	109-E53	SWW	63.2	69.8	0.42	83.1	10.2	57.7	8.44	8.46	
	109-E59	SWW	63.6	71.0	0.46	81.9	10.9	56.3	8.54	8.64	
810240											
810241	5/ 109-E60	SWW	64.0	71.6	0.40	86.9	9.2	56.4	9.15	9.06	
810242	109-E64	SWW	63.6	71.2	0.45	83.3	9.9	56.5	8.79	8.78	
810243	109-E66	SWW	64.0	70.3	0.44	82.7	9.7	55.6	9.04	9.00	
810244	109-E68	SWW	63.2	70.6	0.44	83.3	10.0	56.8	8.87	8.87	
	109-E69	SWW	62.8	70.2	0.48	79.8	9.5	54.8	8.86	8.80	
810245											
810246	109-E73	SWW	64.4	70.5	0.48	80.2	11.0	56.7	8.71	8.82	
810247	109-E74	SWW	64.0	69.3	0.45	80.8	10.7	56.6	8.84	8.91	
810248	109-E75	SWW	65.2	68.0	0.41	81.7	10.8	57.0	8.64	8.73	
810249	109-E76	SWW	63.6	68.8	0.46	79.6	9.5	55.7	8.71	8.66	
	109-E77	SWW	64.0	70.3	0.42	83.9	9.4	55.5	9.05	8.98	
810250											
810251	109-E78	SWW	64.8	69.9	0.44	82.3	9.5	56.4	8.86	8.81	
810252	109-E81	HWW	64.8	70.1	0.41	84.2	9.9	58.3	8.59	8.58	
810253	109-E83	SWW	64.4	69.4	0.44	81.4	9.0	55.8	9.07	8.96	
810254	109-E85	SWW	64.0	69.4	0.45	80.6	9.5	56.0	8.84	8.78	
810255	5/ 109-E87	SWW	64.8	71.3	0.42	84.9	9.2	57.6	9.21	9.12	



G. O. OUAISSET

DAVIS CA







C. O. QUALSET

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LABNUM	VARIETY	IDNO	CLASS	M TYPE	BABS	BABSC	MTIME	LVOL	LVOLC <u>4/</u>	BCRGR	REMARKS*
					<u>3/</u>						
810255		109-E88	SWW	3M							<i>Q-MILLING (E89)</i>
810256		109-E89	SWW	2M							<i>P-MILL&amp;LVOL</i>
810257		109-E90	HWW	4M							<i>P-MILLING (E97)</i>
810258		109-E97	SWW	3M							<i>Q-MILLING (E100)</i>
810259		109-E100	SWW	3M							
810260		109-E102	SWW	2M							<i>P-MILLING (E104)</i>
810261		109-E104	SWW	2M							<i>P-MILLING (E105)</i>
810262		109-E105	SWW	6M							
810263		109-E107	SWW	6M							
810264		109-E108	SWW	6M							

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 10% Protein.  
4/ Observed Values Corrected to 10% Protein.

COMMENTS: Several of these selections had hard endosperm characteristics and are identified as hard white winters (*HWW*). Bread baking properties were tested on these, but most were not noted as promising due to poor milling performance. Several of the soft whites do look promising in overall milling and pastry properties.

\* NOTE: P = Poor and Q = Questionable



C.O. QUALSET

DAVIS, CA



NURSCO 6 DAVIS, CA C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LYOL	LYOLC 4/	BCRGR	REMARKS**
810265		112-E1	HRW	63.7	62.8	3.8	918	862	4	Q-BCRGR
810266		112-E7	HRW	63.5	62.0	4.0	915	822	2	P-MILLING P-MILLING
810267		112-E9	HRW							
810268		112-E10	HRW							
810269		112-E14	HRW	60.7	61.4	1.7	875	918	6	P-MILLING&BCRGR
810270		112-E15	HRW	58.5	59.0	2.4	880	911		P-MIXING
810271		112-E16	HRW	60.0	57.4	2.1	955	794	6	P-BCRGR
810272		112-E17	HRW	60.0	59.7	1.7	885	866	4	Q-BCRGR
810273		112-E20	HRW						6	P-BCRGR
810274		112-E26	HRW							P-MILLING&MIXING
810275		112-E27	HRW	62.2	60.9	2.5	930	849	2	
810276	ANZA	E29	HRW	60.4	60.5	2.2	875	881	6	
810277	YECORA	ROJO	HRW	63.7	63.1	6.0	875	838	2	
810278		112-E31	HRW	62.0	61.9	3.4	865	859	6	P-BCRGR
810279		112-E32	HRW	62.3	62.2	3.7	910	904	2	
810280		112-E34	HRW	59.5	59.6	4.2	875	881	4	Q-BCRGR
810281		112-E37	HRW							P-MILLING
810282		112-E38	HRW							P-MILLING
810283		112-E39	HRW	61.7	61.3	2.5	955	930	2	P-MILLING
810284		112-E40	HRW	60.0	59.3	2.0	923	880	4	P-MILLING&BCRGR
810285		112-E41	HRW	61.3	60.4	2.3	958	902	3	P-MILLING&BCRGR
810286		112-E42	HRW	60.4	60.0	2.8	915	890	2	Q-MILLING
810287		112-E43	HRW							P-MILLING
810288		112-E44	HRW							P-MILLING
810289		112-E45	HRW							P-MILLING
810290		112-E46	HRW	59.0	60.9	2.5	868	986	4	P-MILLING
810291		112-E47	HRW	61.8	60.7	2.2	915	847	6	Q-MILL, LVOL&BCRGR
810292		112-E48	HRW							

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 9% Protein.

3/ Observed Values Corrected to 9% Protein.

4/ Observed Values Corrected to 9% Protein.  
COMMENTS: The selections which were judged unsatisfactory in milling and/or dough mixing properties were not baked. E17 was good in milling and above all in protein, but was questionable in bread crumb grain. Another evaluation maybe warranted.

\* NOTE: These should be classified as spring wheats (HRS).  
\*\* P = Poor and Q = Questionable

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.



C. O. QUALSET

DAVIS, CA

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS
		*			1/			1/	3/		
810293		113-E1	HRW	62.1	69.5	0.45	79.0	9.6	57.7	2M	57.5
810294		113-E2	HRW	62.6	69.8	0.45	79.7	9.8	56.6	2M	58.6
810295		113-E3	HRW	62.0	69.2	0.45	78.5	10.0	56.6	2M	58.8
810296		5/113-E7	HRW	62.6	71.6	0.44	82.6	10.4	59.1	7M	62.7
810297		113-E12	HRW	62.6	68.1	0.44	77.5	10.7	58.9	8M	
810298		5/113-E17	SRW	62.9	70.8	0.38	82.3	9.5	54.7	6M	
810299		5/113-E26	HRW	61.5	72.7	0.41	85.7	10.5	58.0	6M	60.7
810300		5/113-E30	HRW	63.4	69.2	0.44	79.2	9.0	59.0	3H	63.2
810301		5/113-E41	HRW	61.4	69.6	0.49	76.4	10.0	57.8	4M	
810302		6/113-E42	HRW	62.4	71.8	0.49	80.2	9.3	57.6	3M	59.6
810303		5/113-E44	HRW	62.1	70.6	0.46	80.1	11.0	57.1	3M	59.3
810304		5/113-E45	HRW	62.6	70.0	0.45	79.5	9.3	57.4	2M	58.9
810305	ANZA	E47	HRW	62.4	69.6	0.44	79.8	9.5	56.5	2M	58.2
810306	YECORA ROJO	E48	HRW	61.9	68.8	0.45	78.0	10.7	59.7	6H	63.6



LABNUM	VARIETY	IDNO	CLASS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	CODI	CODIC	4/ REMARKS **
810293		1113-E1	HRW	57.9	1.5	910	935	8			P-MIXING & BCRGR
810294		1113-E2	HRW	58.8	2.1	935	947	5			P-BCRGR
810295		1113-E3	HRW	58.8	2.0	955	955	6			P-BCRGR
810296		1113-E7	HRW	62.3	4.3	955	955	2			P-MILLING
810297		1113-E12	HRW								
810298		1113-E17	SRW								
810299		1113-E26	HRW	60.2	4.3	935	904	2			Q-BCRGR
810300		1113-E30	HRW	64.2	3.2	880	942	4			P-MILLING
810301		1113-E41	HRW								Q-BCRGR
810302		1113-E42	HRW	60.3	2.8	840	883	4			
810303		1113-E44	HRW	58.3	2.1	935	873	2			
810304		1113-E45	HRW	59.6	2.2	795	838	6			
810305	ANZA E47	C1015284	HRW	58.7	1.8	815	846	3			
810306	YECORA ROJO E48		HRW	62.9	6.0	970	927	2			

1/Observed Values Corrected to 14% Moisture Basis.

3/Absorption at 14% Moisture Corrected to 10% Protein. 5/Particularly Promising Overall Quality Characteristics.

4/Observed Values Corrected to 10% Protein. 6/Promising Overall Quality Characteristics.

COMMENTS: Several of the selections are equal to or better than Anza or Yecora Rojo. Selection E-26 appears outstanding. The complete nursery was below normal in milling quality.

\* These should be classified spring wheats (HRS). \*\* P = Poor and Q = Questionable.



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LABNUM	VARIETY	IDNO	CLASS*	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
					1/			1/	3/	
810307		6/ 115-E5	HRW	63.0	66.7	0.47	76.4	11.0	60.3	5H
810308		115-E8	HWW	61.5	67.2	0.51	73.0	10.6	61.7	5H
810309		115-E12	HWW	63.1	67.8	0.53	71.8	10.7	60.7	3H
810310		115-E14	HWW	61.5	67.3	0.49	73.0	10.7	59.4	5H
810311		6/ 115-E21	HWW	63.1	68.8	0.47	76.6	10.4	61.1	5H
810312		6/ 115-E33	HWW	60.4	66.2	0.54	69.1	10.6	60.7	2H
810313		6/ 115-E40	HWW	61.7	68.6	0.50	74.8	10.1	59.7	5H
810314		6/ 115-E42	HRW	61.7	69.2	0.57	72.5	10.4	58.7	6M
810315		115-E43	HRW	62.4	68.6	0.52	73.6	10.0	58.6	4M
810316		115-E44	HWW	61.2	67.5	0.53	71.4	10.5	57.8	6M
810317		115-E46	HRW	61.6	66.3	0.54	68.9	10.9	58.9	2H
810318	Anza	115-E48	HRW	61.7	67.3	0.45	76.2	9.6	58.1	3M
810319		115-E55	HRW	62.8	68.4	0.49	74.6	9.7	58.0	6M
810320		115-E66	HRW	59.0	64.4	0.59	64.4	9.9	57.2	4M
810321		115-E79	HRW	61.1	69.7	0.58	72.0	10.6	58.5	7M
810322		6/ 115-E80	HWW	62.6	68.8	0.52	76.1	10.6	57.7	6M
810323		6/ 115-E81	HWW	62.2	69.6	0.51	76.2	10.2	58.6	6M
810324		115-E82	HWW	60.4	67.3	0.49	73.2	10.9	56.4	3M
810325		6/ 115-E85	HWW	61.2	69.0	0.51	74.8	9.8	58.7	4M
810326		6/ 115-E92	HWW	60.0	68.1	0.46	75.8	10.1	56.9	5M
810327		115-E94	HWW	63.7	68.8	0.47	76.2	10.4	57.4	2M
810328		115-E98	HWW	63.0	69.3	0.47	77.5	10.9	55.7	4M
810329		6/ 115-E99	HWW	60.4	68.3	0.48	75.2	10.2	60.2	4H
810330	UC 353	115-E103	HRW	62.0	72.1	0.48	81.2	9.7	56.9	3M
810331	UC 355	115-E104	HRW	61.1	68.1	0.44	77.1	10.4	58.7	2H



LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	REMARKS	
										<u>3/</u>	<u>4/</u>
810307		115-E5	HRW	66.0	65.0	3.7	893	831	2	<i>Q-Milling</i>	
810308		115-E8	HWW							<i>P-Milling</i>	
810309		115-E12	HWW							<i>P-Milling</i>	
810310		115-E14	HWW							<i>P-Milling</i>	
810311		115-E21	HWW	65.2	64.8	4.1	875	850	4	<i>Q-BCRGR</i>	
810312		115-E33	HWW							<i>P-Mixing</i>	
810313		115-E40	HWW	61.5	61.4	4.8	960	954	2		
810314		115-E42	HRW	61.8	61.4	3.4	935	910	3	<i>P-LVOL&amp;BCRGR</i>	
810315		115-E43	HRW	61.8	61.8	3.6	795	795	8	<i>P-Milling</i>	
810316		115-E44	HWW							<i>P-Milling</i>	
810317		115-E46	HRW							<i>P-Milling</i>	
810318		115-E48	HRW	59.9	60.3	1.9	790	815	8	<i>P-BCRGR</i>	
810319		115-E55	HRW	60.4	60.7	3.9	775	794	6	<i>P-LVOL&amp;BCRGR</i>	
810320		115-E66	HRW							<i>P-Milling</i>	
810321		115-E79	HRW	61.3	60.7	5.3	855	818	4	<i>P-LVOL&amp;BCRGR</i>	
810322		115-E80	HWW	63.0	62.4	4.7	900	863	4	<i>Q-LVOL&amp;BCRGR</i>	
810323		115-E81	HWW	64.0	63.8	4.9	905	893	4	<i>Q-LVOL&amp;BCRGR</i>	
810324		115-E82	HWW	60.0	59.1	3.3	895	839	5	<i>P-LVOL&amp;BCRGR</i>	
810325		115-E85	HWW	60.7	60.9	2.6	910	922	5	<i>Q-BCRGR</i>	
810326		115-E92	HWW	59.2	59.1	3.5	765	759	8	<i>P-LVOL&amp;BCRGR</i>	
810327		115-E94	HWW	60.5	60.1	2.3	755	730	8	<i>P-LVOL&amp;BCRGR</i>	
810328		115-E98	HWW	59.8	58.9	3.9	800	744	9	<i>P-LVOL&amp;BCRGR</i>	
810329		115-E99	HWW	63.1	62.9	3.0	965	953	2	<i>P-LVOL&amp;BCRGR</i>	
810330		115-E103	HRW	58.8	59.1	2.4	870	889	9	<i>P-LVOL&amp;BCRGR</i>	
810331		115-E104	HRW	61.3	60.9	1.9	850	825	9	<i>P-LVOL&amp;BCRGR</i>	

1/ Observed Values Corrected to 14% Moisture Basis.    5/ Particularly Promising Overall Quality Characteristics.  
2/ Absorption at 14% Moisture Corrected to 10% Protein.    6/ Promising Overall Quality Characteristics.  
3/ Observed Values Corrected to 10% Protein.  
4/ Observed Values Corrected to 10% Protein.

COMMENTS: UC 353 and 355 are not satisfactory because of poor bread baking properties. Similar to Anza. Other selections footnoted are significantly better in overall quality.

\* These should be classified as springs (HRS or HWS).



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LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC
					<u>1/</u>	<u>1/</u>		<u>1/</u>	<u>3/</u>		<u>4/</u>
810332	ANZA E9	C1015284	HRS	65.2	65.0	0.38	80.3	9.6	58.3		
810333	INIA 66R E13	C1014195	HRS	65.2	65.6	0.36	81.9	12.5	62.3		
810334	YECORA ROJO E18		HRS	—	64.8	0.37	84.1	11.9	—	60.7	
810335	SHASTA E23	C1003976	HRS	65.6	68.3	0.41	82.3	11.0	—	59.7	
810336		<u>5/</u> 106-E1	HRS	65.2	71.2	0.34	88.8	10.7	61.6		
810337		6/ 106-E2	HRS	64.8	73.7	0.36	90.7	9.6	59.2		
810338		5/ 106-E14	HRS	64.4	70.7	0.36	87.1	10.5	57.8		
810339		5/ 106-E16	SRW	64.8	71.7	0.32	91.7	—	9.3	56.5	
810340		<u>5/</u> 106-E17	SRW	63.2	70.6	0.36	88.3	9.3	55.7	8.94	8.91
810341		106-E19	HRS	66.8	71.1	0.34	88.9	10.6	59.2	8.99	8.91

LABNUM	VARIETY	IDNO	CLASS	MTYPE	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
					<u>3/</u>	<u>3/</u>		<u>4/</u>	<u>4/</u>		
810332	ANZA E9	C1015284	HRS	3M	61.1	61.5	2.4	835	860	4	
810333	INIA 66R E13	C1014195	HRS	4H	67.0	64.5	3.4	1040	885	2	
810334	YECORA ROJO E18		HRS	5H	64.8	62.9	5.2	1075	—	2	
810335	SHASTA E23	C1003976	HRS	3M	62.9	61.9	2.2	940	878	2	
810336		<u>5/</u> 106-E1	HRS	4H	64.5	63.8	3.5	950	907	2	
810337		106-E2	HRS	3M	61.3	61.7	2.5	865	890	4	<i>Q-BCRGR</i>
810338		106-E14	HRS	3M	60.5	60.0	2.5	845	814	4	<i>P-LVOL&amp;BCRGR</i>
810339		106-E16	SRW	6M	58.5	59.2	3.7	—	977	2	
810340		106-E17	SRW	6L	57.2	57.9	5.1	880	922	2	
810341		106-E19	HRS	2H	62.0	61.4	2.2	848	848	4	<i>P-LVOL&amp;BCRGR</i>

1/ Observed Values Corrected to 14% Moisture Basis.  
2/ Absorption at 14% Moisture Corrected to 10% Protein.  
3/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: Selections E16 and E17 are soft endosperm with good milling and pastry baking properties. E16 is also about equal to Yecora Rojo in bread baking properties. These and others noted with footnotes are worthy of further testing.



LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH <u>1/</u>	MSCOR	FPROT	MABSC	MTYPE	BABS
						<u>1/</u>		<u>1/</u>	<u>3/</u>		
810342	ANZA E14	C1015284	HRS	65.6	72.5	0.37	89.0	9.4	58.5	3M	60.1
810343	YECORA ROJO E21		HRS	64.8	72.5	0.37	88.6	11.2	60.7	6H	65.1
810344	INIA 66R E28	C1014195	HRS	65.6	71.8	0.35	89.3	12.6	60.8	5H	66.6
810345		<u>6</u> <u>1</u> 07-E1	SRW	64.8	72.2	0.34	91.5	9.2	58.0	7M	
810346		<u>6</u> <u>1</u> 07-E3	HRS	63.2	69.9	0.34	87.5	9.8	59.4	6M	60.4
810347		107-E6	HRS	65.2	69.9	0.35	87.3	10.5	61.3	4M	64.0
810348		<u>107</u> -E8	HRS	64.4	73.1	0.37	89.5	9.9	58.6	3M	60.7
810349		<u>5</u> <u>1</u> 07-E16	HRS	65.2	72.2	0.35	89.3	10.9	61.1	3H	64.2
810350		<u>107</u> -E17	HRS	63.2	70.9	0.39	86.1	10.2	58.5	3M	59.9
810351		107-E36	HRS	66.0	70.6	0.34	88.6	10.4	59.5	3M	62.6



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LABNUM	VARIETY	IDNO	CLASS	BABSC <u>3/</u>	MTIME	LVOL	LVOLC <u>4/</u>	BCRGR	CODI	CODIC	RMSKS ** <u>4/</u>
810342	ANZA E14	C1015284	HRS	60.7	2.1	755	792	8			
810343	YECORA ROJO E21		HRS	63.9	5.6	1015	941	2			
810344	INIA 66R E28	C1014195	HRS	64.0	3.7	1045	884	2			
810345		107-E1	SRW								
810346		107-E3	HRS	60.6	3.0	960	972	2			
810347		107-E6	HRS	63.5	3.0	870	839	3			
810348		107-E8	HRS	60.8	2.5	878	884	6			
810349		107-E16	HRS	63.3	2.7	1025	969	2			
810350		107-E17	HRS	59.7	2.3	870	858	8			
810351		107-E36	HRS	62.2	2.6	925	900	6			

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 10% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 10% Protein.

COMMENTS: Selection E1 appears to be a promising soft wheat. Selection E16 is outstanding. Most were good in milling properties but had problems in breadmaking with poor loaf volumes and heavy crumb grains.

\*\* P = Poor and Q = Questionable.



PNW CROP QUALITY SURVEY

(Lab. No.'s 81352-356, Respectively)

PNW REGION	No.	CLASS	T.WT.	Wheat <sup>1/</sup>		Flr. 1/		Milling		Flr. 2/		Farinograph <sup>1/</sup>		Cookie <sup>3/</sup>		Sponge*		Noodle		
				1lb/bu	Prot.	Yld.	Ash	Score	Prot.	Abs.	Peak Stab.	Visc.	Visc. <sup>3/</sup>	Cookie Dia.	Cake Dia.	(corr.)	(corr.)	Cake Dia.	Yield	Score
				(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(cm.)	(cm.)	(cm.)	(Vol.)	(cc.)	(cc.)	(%)	
North Idaho	1	SWW	60.7	8.1	73.0	44	83.6	6.9	79.0	54.2	1.4	2.0	42	44	8.84	8.83	1305	86.0	341	70
South Idaho	2	SWW	61.4	9.7	72.7	42	84.4	7.9	81.3	55.3	1.0	1.6	44	31	9.16	9.26	1290	84.5	344	69
Palouse	3	SWW	61.1	8.1	72.7	42	84.5	6.7	85.5	54.2	1.0	1.0	42	49	8.87	8.84	1225	79.0	340	78
Big Bend	4	SWW	61.4	8.9	73.2	41	85.9	7.3	86.0	54.2	1.0	3.5	56	49	8.77	8.81	1260	82.0	344	79
Big Bend	4	Club	60.5	8.8	73.8	38	88.6	7.4	88.0	51.9	1.0	2.5	45	38	9.09	9.12	1255	79.5	351	79
Walla Walla	5	SWW	61.3	8.7	72.4	40	85.3	7.0	85.3	54.1	1.0	1.6	52	52	8.80	8.80	1215	80.0	333	75
North Pendleton	6	SWW	61.4	8.8	74.1	39	88.4	7.2	88.0	54.0	1.0	1.0	41	38	8.70	8.72	1220	80.0	334	72
Columbia River	7	SWW	61.3	8.2	72.1	38	86.1	6.8	91.0	53.4	1.0	1.0	36	40	8.91	8.89	1225	78.5	343	73
Columbia River	7	Club	60.2	7.2	73.0	36	88.7	6.1	93.3	51.3	1.0	1.0	33	58	8.95	8.89	1270	80.0	340	74
Willamette Valley	8	SWW	58.2	9.0	68.9	40	79.9	7.4	84.0	52.2	1.2	1.0	40	34	8.89	8.93	1205	76.0	331	73
Waterville	9	SWW	61.9	7.9	69.8	37	83.1	6.7	89.3	53.5	1.2	2.8	41	48	9.16	9.13	1290	84.0	336	72
Waterville	9	Club	60.3	8.1	72.7	38	87.1	6.9	88.0	51.0	1.0	1.0	33	34	9.16	9.16	1315	86.5	355	74
Horse Heaven	10	SWW	58.8	10.7	70.6	46	78.7	8.7	80.0	55.8	1.0	2.7	78	43	8.39	8.57	1175	71.0	347	72
Blue Mountain	11	SWW	61.8	7.8	70.5	42	81.1	6.9	85.3	54.1	1.0	2.0	43	45	8.64	8.63	1225	76.5	353	74

<sup>1/</sup> 14% Moisture Basis

<sup>2/</sup> Agtron Units

<sup>3/</sup> Observed Values Corrected to 7% Protein.

\* Japanese Sponge Cake and Udon Noodle.

These milling and baking tests were done in co-operation with the PNW Grain Standards and Quality Committee and U.S. Wheat Associates. Samples are composites made from country elevator samplings during harvest representing 11 regions of Washington, Oregon, and Idaho soft white wheat production of the 1981 crop. Overall Quality for milling, cookie and sponge cake baking, and noodle making was good for most regions. The flour yield from regions 8 (Willamette Valley) and 9 (Waterville) were below normal. Some shriveled kernels were observed from these locations.



LABNUM	VARIETY	IDNO	CLASS	FASH	FPROT	FABS	FABSC	FPEAK	FSTAB	MABSC	MTYPE	3/	
												1/	2/
810366	SD 10*	MT7648	HRS	0.61	17.3	67.6	63.3	52.2	55.6	64.5	8H		
810367	SD 11	MT7819	HRS	0.61	14.9	63.6	61.7	10.3	29.5	67.4	8H		
810368	SD 12	MT7836	HRS	0.46	16.0	67.1	64.1	49.2	53.7	66.2	8H		
810369	SD 13	C1013596	HRS	0.54	14.6	63.1	61.5	34.5	34.1	64.1	5H		
810370	HV 14	MT7648	HRS	0.34	15.2	67.9	65.7	27.7	20.7	64.7	6H		
810371	HV 15	MT7819	HRS	0.38	13.4	60.1	59.7	25.5	44.5	63.9	8H		
810372	HV 16	6MT7836	HRS	0.35	14.8	68.3	66.5	18.3	16.3	65.5	5H		
810373	HV 17	C013596	HRS	0.36	14.1	63.4	62.3	11.5	13.2	62.9	4H		
810374	MC 18	6MT7648	HRS	0.37	11.7	63.8	65.1	1.5	7.8	65.1	6H		
810375	MC 19	MT7819	HRS	0.47	11.0	61.3	63.3	2.0	4.9	65.8	7H		
810376	MC 20	6MT7836	HRS	0.48	13.2	68.7	68.5	11.1	14.1	66.3	4H		
810377	MC 21	C1013596	HRS	0.46	11.7	64.0	65.3	5.3	7.2	64.1	3H		
810378	CN 22	MT7648	HRS	0.40	9.9	63.0	66.1	1.7	2.0	64.3	8M		
810379	CN 23	MT7819	HRS	0.41	9.3	59.3	63.0	1.5	3.8	63.3	8M		
810380	CN 24	6MT7836	HRS	0.42	11.3	66.9	68.6	5.4	10.1	64.8	4H		
810381	CN 25	C1013596	HRS	0.41	11.2	65.5	67.3	3.9	5.6	64.0	2H		
810382	BZ 26	C1013670	HRW	0.42	13.3	65.6	65.3	4.6	4.5	63.0	2H		
810383	BZ 27	6MT7428	HRW	0.42	14.0	66.0	65.0	5.8	7.5	64.1	2H		
810384	BZ 28	MT77063	HRW	0.40	13.0	67.4	67.4	4.4	4.6	63.8	2H		
810385	BZ 29	MT77066	HRW	0.43	11.5	66.3	67.8	2.8	3.2	63.2	2H		
810386	BZ 30	MT77077	HRW	0.42	14.5	67.8	66.3	3.1	3.0	61.9	1H		
810387	HV 43	C1013670	HRW	0.42	13.6	62.0	61.4	7.9	11.3	61.9	4H		
810388	HV 44	6MT7428	HRW	0.38	13.8	61.5	60.7	9.4	17.4	63.8	5H		
810389	HV 45	MT77062	HRW	0.35	13.2	62.4	62.2	10.0	18.2	64.1	5H		
810390	HV 46	6MT77063	HRW	0.36	14.2	63.8	62.6	9.9	14.5	63.6	4H		
810391	HV 47	MT77066	HRW	0.39	13.1	62.5	62.4	4.3	5.3	62.2	2H		
810392	HV 48	MT77077	HRW	0.35	12.2	60.9	61.7	3.6	5.6	61.8	2H		



LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOL 4/	BCRGR	RNKS**
810366	SD 10	MT7648	HRS	73.0	68.7	8.8	1250	983	2	P-MILLING-TOO LONG MIX.
810367	SD 11	MT7819	HRS	73.5	71.6	17.5	1100	982	2	TOO LONG MIXING
810368	SD 12	MT7836	HRS	74.9	71.9	12.1	1193	1007	2	TOO LONG MIXING
810369	SD 13 FORTUNA	C1013596	HRS	69.9	68.3	4.9	1090	991	2	
810370	HV 14	MT7648	HRS	70.1	67.9	6.8	1315	1179	2	Q-MIXING (too long)
810371	HV 15	MT7819	HRS	67.5	67.1	12.6	1255	1230	2	TOO LONG MIXING
810372	HV 16	MT7836	HRS	72.0	70.2	5.7	1333	1221	2	
810373	HV 17 FORTUNA	C013596	HRS	67.2	66.1	3.6	1190	1122	2	Q-MIXING (TOO LONG)
810374	MC 18	MT7648	HRS	68.0	69.3	6.7	975	1056	2	
810375	MC 19	MT7819	HRS	67.5	69.5	9.8	868	992	3	TOO LONG MIXING
810376	MC 20	MT7836	HRS	71.7	71.5	3.5	1105	1093	2	
810377	MC 21 FORTUNA	C1013596	HRS	66.5	67.8	3.1	970	1051	2	Q-MIXING
810378	CN 22	MT7648	HRS	66.9	70.0	7.2	843	1035	2	
810379	CN 23	MT7819	HRS	63.3	67.0	8.5	818	1047	2	TOO LONG MIXING
810380	CN 24	MT7836	HRS	67.3	69.0	3.5	970	1075	2	
810381	CN 25 FORTUNA	C1013596	HRS	64.4	66.2	2.5	900	1012	2	
810382	BZ 26 WINALTA	C1013670	HRW	65.5	65.2	2.1	1105	1086	2	Q-MILLING
810383	BZ 27	MT7428	HRW	66.3	65.3	2.3	1075	1013	2	P-MIXING PROPERTIES
810384	BZ 28	MT77063	HRW	64.0	64.0	1.9	995	995	2	
810385	BZ 29	MT77066	HRW	62.9	64.4	1.9	1028	1121	3	P-MIXING & BCRGR
810386	BZ 30	MT77077	HRW	64.6	63.1	1.8	1035	942	4	P-MIXING
810387	HV 43 WINALTA	C1013670	HRW	64.7	64.1	3.3	1135	1098	2	
810388	HV 44	MT7428	HRW	66.8	66.0	5.1	1100	1050	2	
810389	HV 45	MT77062	HRW	66.5	66.3	5.2	1025	1013	2	LOW LVOL
810390	HV 46	MT77063	HRW	67.0	65.8	3.9	1055	981	2	
810391	HV 47	MT77066	HRW	63.5	63.4	2.3	1203	1197	5	P-BCRGR & Q-MIXING
810392	HV 48	MT77077	HRW	61.7	62.5	2.3	1120	1170	3	P-MIXING

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 13% Protein.

3/ Observed Values Corrected to 13% Protein.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.

**COMMENTS:** The samples were baked in co-operation with the Montana Wheat Quality Council from flour samples which were milled at the WWQL on our Miag Multomat. Milling data is not included. The spring samples from Sidney all were abnormally long in dough mixing requirement. MT819 however, was excessively long at locations. MT7648 also was consistently too long in mixing requirement to be desirable. Contrarily, the winter wheats grown at Bozeman were abnormally short and weak in dough mixing and structure. Winter selections MT77063, Mt77066 and MT77077 are weak in dough structure which is reflected in the bread crumb grain. \* Code = SD = Sidney, HV = Haver, MC = Moccasin, CN = Conrad, & BZ = Bozeman. \*\* P = Poor and Q = Questionable.



NURSCO 13

PENDLETON, OR

M. KOLDING

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE
				<u>1/</u>		<u>1/</u>		<u>1/</u>	<u>3/</u>		<u>4/</u>	
810393	STEPHENS	C1017569	6/ SWW	61.0	71.9	0.46	79.7	8.9	52.7	8.44	8.54	1M
810394	FW3830CP04		5/ SWW	61.6	72.8	0.43	82.1	8.3	50.7	8.96	9.00	2L
810395	FW73830-835		5/ SWW	62.6	73.9	0.42	85.7	7.9	52.2	8.92	8.91	2M
810396	TRITICALE M75-8655-50		TRIT	51.9	68.1	0.56	67.7	6.9	51.9	8.00	7.91	1M
810397	TRITICALE M76-96A-72		TRIT	53.0	70.4	0.54	73.4	6.4	50.6	7.84	7.71	2M

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 8% Protein.  
4/ Observed Values Corrected to 8% Protein.

COMMENTS: Both of these feed wheats have better milling and pastry quality than Stephens. Both of the triticale selections gave respectable flour yield but poor cookie spread. Their low water absorption and short and weak mixing properties are also unacceptable for bread making.

It would appear these feed wheats would be acceptable in the food channel.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.



C.0.1. QUALSET

DAVIS 60

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LABNUM	VARIETY	IDNO	CLASS	FYIELD	FASH	FPROT	MTYPE	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	4/	
														1/	1/
810398	XXXXX EXP 114 XXXXX	E1	HWS	74.3	0.40	9.2	3M	58.7	59.5	2.2	720	770*	9*	9*	9*
810399	XXXXX EXP 114 XXXXX	E8	HRS	69.0	0.40	10.4	3M	61.6	61.2	2.8	895	870*	8*	8*	8*
810400	ANZA YECORA ROJO	E9	HWS	70.0	0.40	10.4	4M	61.2	60.8	3.1*	870	845*	9*	9*	9*
810401	ANZA YECORA ROJO	E17	HRS	70.0	0.40	10.3	3M	60.2	59.9	1.9*	870	851*	8*	8*	8*
810402	ANZA YECORA ROJO	E25	HRS	69.0	0.40	9.3	2M	59.4	60.1	1.7*	725	768*	9*	9*	9*
810403	ANZA YECORA ROJO	E26	HRS	70.0	0.40	9.5	3M	58.6	59.1	1.8*	765	796*	8*	8*	8*
810404	ANZA YECORA ROJO	E27	HRS	69.0	0.40	10.5	4M	60.5	60.0	2.8	850	819*	5*	5*	5*
810405	ANZA YECORA ROJO	E28	HRS	69.0	0.40	10.6	4M	61.5	60.9	3.2	940	903	2	2	2
810406	ANZA YECORA ROJO	E31	HRS	71.0	0.40	10.0	3M	59.9	59.9	3.0	945	945	4*	4*	4*
810407	ANZA YECORA ROJO	E33	HRS	71.0	0.40	10.5	3M	62.2	61.7	2.3	850	819*	5	5	5
810408	ANZA YECORA ROJO	5/ E43	HRS	71.0	0.39	11.7	4M	60.4	58.7	4.0	1155	1050	2	2	2
810409	ANZA YECORA ROJO	5/ E45	HRS	69.0	0.40	10.0	3M	60.5	60.5	2.4	845	845	8	8	8
810410	ANZA YECORA ROJO	5/ E46	HRS	69.0	0.40	11.2	6H	64.6	63.4	6.2	980	906	2	2	2
810411	ANZA YECORA ROJO	5/ E2	HRS	72.0	0.40	10.0	4H	65.5	65.5	3.8	1010	1010	2	2	2
810412	ANZA YECORA ROJO	5/ E4	HRS	71.0	0.40	10.7	4H	65.9	65.2	2.9	950	907	4	4	4
810413	ANZA YECORA ROJO	6/ E6	HRS	72.0	0.40	10.5	3M	64.6	64.1	2.4	1020	989	6*	6*	6*
810414	ANZA YECORA ROJO	6/ E7	HRS	70.0	0.40	10.5	5H	65.4	64.9	4.6	965	934*	2	2	2
810415	ANZA YECORA ROJO	6/ E9	HRS	71.0	0.40	11.8	5H	67.6	65.8	7.0	955	843*	2	2	2
810416	ANZA YECORA ROJO	5/ E10	HRS	69.0	0.40	10.2	6H	66.3	66.1	6.1	935	923	4	4	4
810417	ANZA YECORA ROJO	5/ E11	HRS	70.0	0.40	10.9	3M	65.4	64.5	2.8	1025	969	2	2	2
810418	ANZA YECORA ROJO	6/ E14	HRS	69.0	0.40	11.0	4H	66.5	65.5	4.1	1010	948	4	4	4
810419	ANZA YECORA ROJO	6/ E15	HRS	69.0	0.39	10.8	6H	65.4	64.6	6.0	940	890	4	4	4
810420	ANZA YECORA ROJO	6/ E17	HRS	69.0	0.40	10.7	3H	62.8	62.1	3.1	920	877*	2	2	2
810421	ANZA YECORA ROJO	6/ E22	HRS	69.0	0.40	9.8	4H	63.6	63.8	4.0	880	892*	2	2	2
810422	ANZA YECORA ROJO	5/ E29	HRS	70.0	0.40	10.6	5H	63.4	62.8	4.4	960	923	2	2	2
810423	ANZA YECORA ROJO	E31	HRS	68.0	0.40	9.4	2H	62.1	62.7	2.2	925	962	4	4	4
810424	ANZA YECORA ROJO	E32	HRS	70.0	0.40	11.0	6H	66.2	65.2	6.1	1005	943	2	2	2
810425	ANZA YECORA ROJO	6/ E33	HRS	69.0	0.40	10.7	4H	63.9	63.2	3.2	950	907	4	4	4
810426	ANZA YECORA ROJO	E6	HRS	69.0	0.40	8.6	3M	61.2	62.6	3.2	885	972	6	6	6
810427	ANZA YECORA ROJO	5/ E8	HRS	71.0	0.40	9.8	3M	62.2	62.4	2.9	980	992	2	2	2
810428	ANZA YECORA ROJO	5/ E14	HRS	69.0	0.40	10.9	3M	63.2	62.3	2.7	1055	999	2	2	2
810429	ANZA YECORA ROJO	5/ E26	HRS	70.0	0.40	9.9	6H	64.6	64.7	6.6	975	981	3	3	3
810430	ANZA YECORA ROJO	6/ E34	HRS	71.0	0.40	9.8	2M	60.5	60.7	2.3	955	967	2	2	2
810431	ANZA YECORA ROJO	E35	HRS	70.0	0.40	9.6	2M	63.9	64.3	2.4	940	965	6	6	6
810432	ANZA YECORA ROJO	E44	HRS	69.0	0.40	9.1	3M	60.8	61.7	0.8	966	976	4	4	4



C.O. QUALSET

DAVIS, CA

LABNUM	VARIETY	IDNO	CLASS	FYELD	FASH	FPROT	MTYPE	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	3/	4/
														1/	2/
810433	YECORA ROJO													66.5	65.4
810434	ANZA													58.0	59.0
810435	XXXXX EXP 118 XXXXX													61.8	61.9
810436														59.5	59.7
810437														62.5	62.8
810438														64.7	64.3
810439														62.0	62.1
810440														61.7	62.2
810441														65.4	62.7
810442														63.3	63.7
810443														63.5	64.5
810444														64.4	65.0
810445														63.0	63.4
810446														65.3	65.3
810447	ANZA													60.3	61.2
810448	YECORA ROJO													66.6	66.0
810449	XXXXX EXP 119 XXXXX													65.2	64.9
810450														57.1	57.7
810451														65.1	65.5
810452	ANZA													60.4	60.8
810453	YECORA ROJO													65.5	64.7
810454														61.4	61.9
810455														55.5	55.7
810456	XXXXX EXP 120 XXXXX													63.1	62.7
810457														63.5	63.3
810458	ANZA													61.9	62.4
810459														63.8	63.4
810460														61.3	62.1
810461														61.8	61.3
810462														59.2	59.9
810463	YECORA ROJO													61.9	62.4
810464														63.4	62.0
810465	XXXXX EXP 123 XXXXX													62.3	62.1
810466														70.0	67.7
810467														66.8	65.7



NURSCO 14

DAVIS, CA

C. O. QUALETT

LABNUM	VARIETY	INDO	CLASS	FYELD	FASH	FPROT	MTYPE	BABS	BABSC	MTIME	LYOL	LVOLC	BCRGR
		1/		1/		3/							4/
810468													
810469													
810470													
810471													
810472													
810473													
810474													
810475													
810476	ANZA												
810477	YECORA ROJO												
810478													
810479	XXXXXX	EXP 155	XXXXXX										
810480	XXXXXX	EXP 155	XXXXXX										
810481													
810482													
810483													
810484													
810485	ANZA												
810486	RAMONA 50												
810487	XXXXXX	EXP 156	XXXXXX										
810488													
810489													
810490													
810491													
810492	ANZA												

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 10% Protein.  
4/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.  
COMMENTS: In Experiment 116 entry E31 does not look like a typical Anza. Several of the entries with footnote 6/ (Promising Overall Quality Characteristics) do have marginal or questionable properties, but were so noted because they were significantly better than Anza and may be useful for further crossing or re-selection.

\* Indicates deficiency in that quality factor.



NURSCO 15

PENDLETON, OR

C.R. ROHDE

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	4/	REMARKS	
				1/			3/	1/					4/		
810493	DAWS	C1017419	SWW	60.0	68.0	0.41	81.7	7.9	51.8	8.72	8.71	5L			
810494	FARO	C1017590	CLUB	59.2	71.6	0.41	86.1	7.2	50.8	9.19	9.13	2L			
810495	STEPHEN'S	C1017596	SWW	60.4	71.7	0.41	86.4	8.0	51.8	9.12	9.12	2L			
810496	PAHA//SEL.M72-330//DAWS(M76-429).A-1869	6/ OR8148	CLUB	62.0	71.5	0.41	86.2	8.4	51.4	9.06	9.09	3L			
810497	PAHA//SEL.M72-330//DAWS(M76-429).A-1873	6/ OR8152	CLUB	62.0	71.4	0.41	86.1	8.0	52.1	9.45	9.45	3L		FYIELD	
810498	STEPHEN'S/SM-11(M76-525).A-15	OR8169	SWW	56.8	69.4	0.41	83.5	8.0	53.1	9.11	9.11	3L	LOW TWT & ↑		
810499	STEPHEN'S/SM-11(M76-525).A-15	OR8170	SWW	58.8	67.4	0.47	76.9	7.8	54.2	8.89	8.87	3L	Poor mill		
810500	PAHA//SEL.M72-330//DAWS(M76-429).A-1563	OR8173	CLUB	60.0	71.0	0.45	82.9	7.2	52.6	9.12	9.07	2L	Ques. MSCOR		
810501	PAHA//SEL.M72-330//DAWS(M76-429).A-1609	5/ OR8177	CLUB	59.6	73.0	0.42	87.3	7.2	49.6	9.50	9.44	1L	LOW MILLING		
810502	MCDERMID/SM-11(M76-521).A-1	OR8180	SWW	61.2	70.4	0.43	83.0	8.0	53.2	9.02	9.02	3L	LOW MILLING		
810503	MCDERMID/SM-6(M76-520).A-15	OR8182	SWW	58.8	71.1	0.44	83.6	8.1	53.7	8.91	8.92	6L	LOW MILLING		
810504	PAHA//SEL.M72-330//DAWS(M76-429).A-1580	6/ OR8183	CLUB	61.6	70.8	0.41	85.1	8.0	50.6	9.31	9.31	2L			
810505	HYS/NRC//CAM/3//DAWS(M76-497).A-1339	OR8187	SWW	59.2	69.6	0.42	83.2	7.7	53.2	8.95	8.92	3L			
810506	HYS/NRC//CAM/3//SM-4(7436)(M76-502)A-1358	OR8188	6/	SWW	61.2	71.1	0.43	84.3	7.2	54.2	9.17	9.09	5L		
810507	RIEB/YH//HYS/NRC/3//SM-22(M76-513).A-1400	OR8190	SWW	58.8	69.8	0.46	80.7	7.9	53.4	8.91	8.90	3L	LOW MILLING		
810508	STEPHEN'S/SM-11(M76-525).A-15	6/ OR8192	SWW	57.2	69.2	0.44	81.1	8.3	54.6	9.04	9.07	3L	LOW MILLING		
810509	STEPHEN'S/SM-11(M76-525).A-15	6/ OR8193	SWW	58.8	72.3	0.43	85.6	8.3	54.0	9.21	9.25	3L			
810510	PAHA//SEL.M72-330//DAWS(M76-429).A-1562	6/ OR8194	CLUB	60.0	71.8	0.42	85.8	8.0	52.1	9.30	9.30	1L			
810511	PAHA//SEL.65-2124(M76-432).A-1273	5/ OR81102	CLUB	59.6	73.8	0.44	87.3	7.7	51.7	9.50	9.48	1L			
810512	STEPHEN'S/P.1.173438(M76-479).A-1273	5/ OR81104	SWW	60.4	72.3	0.42	86.6	8.0	54.0	9.61	9.61	3L			

1/ Observed Values Corrected to 14% Moisture Basis.

3/ Absorption at 14% Moisture Corrected to 8% Protein.

4/ Observed Values Corrected to 8% Protein.

COMMENTS: Several of the selections footnoted are promising in overall quality.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.



C.R. ROHDE

PENDLETON, OR

NURSCO 16

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	M TYPE
810513	DAWS	C1017419	SWW	61.0	66.7	0.48	71.0	7.0	51.6	8L
810514	FARO	C1017590	CLUB	59.7	69.3	0.48	75.6	6.7	50.8	2L
810515	STEPHENS	C1017596	SWW	61.2	70.9	0.48	75.9	7.2	52.7	3L
810516	JACMAR		CLUB	59.5	69.6	0.50	75.1	7.7	49.9	3L
810517	HYSLOP/OR6739. SEL. 744	6/ OR0774	SWW	60.2	70.6	0.48	75.3	7.2	52.7	
810518	CAPPELLE DESPREZ/OR69122. SEL. 3	6/ OR0793	SWW	58.1	69.5	0.47	75.1	7.4	53.5	8L
810519	LUKE/OR696. SEL. 82-6	6/ OR0795	SWW	60.1	71.0	0.48	75.6	7.2	53.1	5L
810520	C114482/MORO. SEL. E109	5/ OR0797	SWW	50.9	72.7	0.46	80.6	7.6	51.7	3L
810521	SUWONG2/3*OMAR//MORO. SEL. 142	5/ OR7142	CLUB	61.6	71.1	0.48	77.8	7.1	51.4	2L
810522	PAHA/OR6857. SEL. 204	5/ OR7792	CLUB	61.6	71.0	0.48	79.0	7.4	50.1	3L
810523	REW/LUKE. SEL. 305	5/ OR7794	SWW	62.7	71.1	0.48	77.8	7.2	52.2	3L
810524	ARC/68-23. OWM68109-1M6. R-241	6/ OR7956	SWW	56.8	68.6	0.49	72.6	6.9	50.9	2L
810525	BEZ/NAD//KTZ. SWD71437A-01H-1H-0P	6/ OR7959	SRW	63.8	68.9	0.46	74.9	7.5	53.7	5L
810526	6720/WA4995/6720HYS. OWN69169-1W5. R-2446/ OR7961	SWW	58.3	67.7	0.47	72.0	6.3	53.6	8L	
810527	HYS/YAYLA/63-112-66-41/0R69118. W-4315 6/ OR7983	SWW	58.8	69.1	0.48	72.0	6.6	53.0	8L	
810528	HYS/YAYLA/WA4995/3/CERCO. W-1980	6/ OR7996	SWW	59.6	70.7	0.51	74.7	7.2	52.2	8L



ADVANCED WINTER

C. R. ROHDE

NURSCO 16

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/	CAVOL	SCSOR	WTIN	NOSCO	RMMKS
810513	DAWS	C1017419	SWW	8.59	8.59	1310	68.0	335	75	
810514	FARO	C1017590	CLUB	9.07	9.05	1450	76.5	350	76	
810515	STEPHENS	C1017596	SWW	8.94	8.96	1395	72.3	336	76	
810516	JACMAR		CLUB	9.26	9.31	1450	79.6	352	75	
810517	HYSLOP/OR6739. SEL. 744	OR0774	SWW	8.95	1365	72.5	340	73	Q-NOSCO	
810518	CAPPELLE DESPREZ/OR69122. SEL. 3	OR0793	SWW	8.94	8.98	1385	72.3	350	75	
810519	LUKE/OR696. SEL. 82-6	OR0795	SWW	9.22	9.24	1350	69.8	341	75	
810520	C114482/MORO. SEL. E109	OR0797	SWW	9.04	9.11	1365	70.6	349	80	
810521	SUWON92/3*OMAR//MORO. SEL. 142	OR7142	CLUB	8.85	8.86	1355	67.3	342	77	Q-SCSOR
810522	PAHA/OR6857. SEL. 204	OR7792	CLUB	8.96	8.99	1335	72.0	340	75	
810523	REW/LUKE. SEL. 305	OR7794	SWW	8.86	8.88	1395	74.6	336	76	
810524	ARC/68-23. OMW68109-1M6. R-241	OR7956	SWW	9.09	9.08	1360	72.6	336	75	
810525	BEZ/NAD//KTZ. SWD71437A-01H-1H-0P	OR7959	SRW	8.81	8.86	1260	64.6	336	74	P-S. CAKE
810526	6720/WA4995/6720HYS. OMW69169-1W5. R-244	OR7961	SWW	9.03	8.95	1395	73.4	335	78	
810527	HYS/YAYLA/63-112-66-41/OR69118. W-4315	OR7983	SWW	9.09	9.04	1340	68.6	340	76	Q-S. CAKE
810528	HYS/YAYLA/WA4995/3/CERCO. W-1980	OR7996	SWW	9.02	9.05	1385	76.6	320	73	Q-NOSCO

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
2/ Absorption at 14% Moisture Corrected to 7% Protein. 6/ Promising Overall Quality Characteristics.

3/ Observed Values Corrected to 7% Protein.

4/ Observed Values Corrected to 7% Protein.

COMMENTS: The entire nursery was abnormally low in milling quality (low flour yield and high ash). Judgements were made in relation to the check varieties. Selection OR7959 is a soft red wheat and was poor in sponge cake quality.



NURSCO 17

TOLEDO, OH

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
810529	MICHIGAN SOFT WHITE	NO. 1	SWW	60.9	74.0	0.52	82.8	8.3	50.0	3L
810530	WESTERN WHITE	NO. 2	SWW	62.1	72.3	0.50	78.2	7.9	49.7	2L
810531	PNW WHITE CLUB	NO. 3	CLUB	62.1	72.8	0.48	81.6	7.1	50.7	2L

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/	WTIN	NOSCO	CAVOL	SCSOR
810529	MICHIGAN SOFT WHITE	NO. 1	SWW	9.61	9.65	364	69	1260	71.5
810530	WESTERN WHITE	NO. 2	SWW	9.12	9.11	360	75	1238	76.0
810531	PNW WHITE CLUB	NO. 3	CLUB	9.10	9.04	367	80	1220	76.0

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 8% Protein.  
4/ Observed Values Corrected to 8% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: The testing of these samples was done at the request of the General Sales Managers Office, USDA, FAS. The samples were assembled in Toledo, OH as a Western White shipment to Iran, which was made from Michigan soft white (63%) and PNW club wheat (37%). In addition to the above analysis a pocket bread and an Iranian flat bread (Barbari) were made. All were judged as satisfactory in both pocket and Barbari bread, but the best was the 100% Michigan soft white followed by the Western White blend. All made excellent cookies, noodles, and sponge cake.



LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	
				1/	1/	1/	1/	1/	3/		
810532	KHARKOF	C1001442	HRW	59.7	64.6	0.43	74.3	9.7	60.7	3M	
810533	ELGIN	C1011755	CLUB	61.3	72.1	0.41	84.3	8.6	51.4	2M	
810534	MORO	C1013740	CLUB	60.8	71.6	0.41	83.4	8.7	52.2	2M	
810535	NUGAINES	C1013968	SWW	62.6	68.0	0.39	78.4	7.8	57.2	3M	
810536	STEPHENS	C1017596	SWW	61.9	71.0	0.40	81.4	8.1	56.2	2M	
810537	FARO	C1017590	CLUB	61.2	72.5	0.40	85.6	8.0	54.9	2M	
810538	SUWON 92/3*OMAR//MORO,	142	6//OR7142	CLUB	61.9	72.1	0.42	83.5	8.1	54.7	1M
810539	YAMHILL/HYSLOP	6//OR68007	SWW	61.4	71.9	0.39	82.9	8.3	55.6	3M	
810540	LUKE/WA5829	6//WA6363	SWW	62.3	72.6	0.38	84.8	8.0	55.8	3L	
810541	WA4765//BURT/PI178383	1D745318	SWW	60.6	67.6	0.42	75.6	7.9	56.5	3L	
810542	SEMI DWARF MULTILINE CLUB	6//WA6472	CLUB	61.5	71.4	0.42	82.8	8.0	56.0	2M	
810543	TYEE	6//C1017773	CLUB	59.5	72.4	0.40	86.0	6.9	54.5	2L	
810544	VD67217/VB67297, VD075211	6//WA6581	CLUB	61.2	70.0	0.40	81.8	7.9	53.1	2M	
810545	REW/LUKE, SEL. 305	6//OR7794	SWW	62.2	70.8	0.38	83.3	8.1	55.4	3M	
810546	C114482/MORO, SEL. E 109	6//OR0797	SWW	61.2	70.6	0.39	82.3	8.4	54.7	2M	
810547	DAWS/WA5829, VHO78141	SWW	61.9	68.8	0.39	79.5	7.8	55.0	3L		
810548	ALLAN SEL. A7815	5//WA6696	CLUB	62.3	71.3	0.41	83.4	8.1	51.7	1L	
810549	LUKE/VH76375	5//WA6813	SWW	59.8	74.0	0.41	85.9	7.0	53.9	3L	
810550	VB71221/M722712	5//WA6814	SWW	60.5	74.5	0.43	85.6	8.2	53.9	2L	
810551	PAHA/OR6857, SEL. 204	5//OR7792	CLUB	62.1	71.7	0.40	84.2	7.9	53.9	2L	
810552	YAYLA/YMH//RIEB/YMH/3/REW	6//OR0794	SWW	62.5	72.2	0.42	82.0	8.5	58.2	2L	
810553	PECK, SEL. 17	1D745325	SWW	60.7	69.5	0.42	78.7	8.3	56.4	3L	



POM, PENDL, MORO, ABERD

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LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC	CAVOL	SCSOR	WTIN	NOSCO	RMKS
<u>4/</u>										
810532	KHARKOF	C1001442	HRW	8.10	8.24	1285	62.0	342	68	
810533	ELGIN	C1011755	CLUB	9.03	9.07	1540	86.0	364	80	
810534	MORO	C1013740	CLUB	9.06	9.12	1490	82.0	365	78	
810535	NUGAINES	C1013968	SMW	8.90	8.88	1440	76.0	335	77	
810536	STEPHENS	C1017596	SMW	8.93	8.94	1485	80.0	363	76	
810537	FARO	C1017590	CLUB	9.01	9.01	1360	77.0	351	78	
810538	SUWON 92/3*OMAR//MORO,	142	OR7142	8.76	8.76	1345	74.0	339	79	
810539	YAMHILL/HYSLOP	OR68007	SMW	8.89	8.93	1350	73.0	342	77	
810540	LUKE/WA5829	WA6363	SMW	9.12	9.12	1350	71.0	331	76	
810541	WA4765//BURT/PI178383	ID745318	SMW	8.71	8.70	1290	70.0	338	74	
810542	SEMI DWARF MULTILINE CLUB	WA6472	CLUB	9.04	9.04	1420	77.8	336	79	
810543	TYEE	C1017773	CLUB	9.06	8.98	1385	74.3	347	78	
810544	VD67217/VB67297, VD075211	WA6581	CLUB	8.84	8.83	1395	74.7	368	79	
810545	REW/LUKE, SEL. 305	OR7794	SMW	8.77	8.78	1395	73.5	354	80	
810546	C114482/MORO, SEL.E 109	OR0797	SMW	8.98	9.03	1380	72.0	364	79	
810547	DAWS/WA5829, VHO78141	WA6696	SMW	8.68	8.66	1340	74.3	357	79	
810548	ALLAN SEL.A7815	WA6698	CLUB	8.92	8.93	1405	77.5	354	77	
810549	LUKE/VH76375	WA6813	SMW	9.07	8.96	1430	77.7	347	80	
810550	VBT1221/M722712	WA6814	SMW	9.14	9.17	1385	74.6	367	77	
810551	PAHA/OR6857, SEL.204	OR7792	CLUB	9.24	9.24	1400	74.9	352	79	
810552	YAYLA/YMH//RIEB/YMH/3/REW	OR0794	SMW	8.83	8.89	1305	71.1	365	78	
810553	PECK, SEL.17	ID745325	SMW	8.99	9.02	1335	72.1	355	71	

1/ Observed Values Corrected to 14% Moisture Basis.

5/

Particularly Promising Overall Quality Characteristics.

3/ Absorption at 14% Moisture Corrected to 8% Protein.

6/

Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 8% Protein.

COMMENTS: Equal amounts of seed was composited from nurseries grown at Pomeroy, WA., Pendleton and Moro, OR., and Aberdeen, ID. The following selections were poor or questionable in certain quality factors: ID745318 was poor in milling quality and low in Japanese sponge cake volume and score; WA6581 is questionable in milling quality to meet traditional club wheat standards; WA6696 is low in flour yield and cookie diameter. OR0794 may be questionable in sponge cake baking properties; and ID745325 is low in milling quality and questionable in noodle making quality.



NURSCO 20

LIND, WA  
E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS
$\frac{1}{1/}$ / $\frac{3}{3/}$											
810571	HATTON I	C1017772	HRW	64.8	73.1	0.35	90.5	10.3	63.8	6M	64.3
810572		N81-101	HRW	63.2	70.5	0.37	86.4	11.5	63.0	2H	66.7
810573		N81-102	HRW	63.6	71.0	0.38	86.9	11.7	64.1	2H	68.0
810574		N81-103	HRW	63.6	70.5	0.38	86.0	11.9	63.2	7M	67.3
810575		N81-201	HRW	63.6	72.2	0.35	89.7	9.5	64.3	4M	65.0
810576		N81-301	HRW	62.0	71.5	0.33	89.6	10.2	64.8	2H	65.2
810577		N81-401	HRW	63.6	71.7	0.34	89.4	9.9	62.6	7M	63.7
810578		N81-402	HRW	62.8	71.1	0.35	88.6	11.5	59.2	1H	60.9
810579		N81-403	HRW	62.0	72.5	0.36	89.5	10.1	59.6	3M	57.9
810580		N81-404	HRW	62.8	70.7	0.32	89.7	10.3	61.3	2M	61.8
810581		N81-405	HRW	62.4	72.4	0.36	89.3	9.9	61.3	3M	60.4
810582		N81-501	HRW	62.4	70.4	0.36	87.1	10.4	60.8	1H	60.4
810583		N81-502	HRW	62.8	71.3	0.36	88.0	10.8	59.2	1H	60.2
810584		N81-503	HRW	62.4	70.7	0.36	87.2	11.0	60.2	1H	60.4
810585		N81-601	HRW	62.8	72.6	0.32	91.2	10.9	62.7	4M	64.8
810586		N81-602	HRW	64.0	74.1	0.35	91.6	11.1	62.7	2H	64.0
810587		N81-603	HRW	62.4	74.0	0.33	92.5	10.7	62.3	2H	63.2
810588	HATTON I I	C1017772	HRW	64.4	71.9	0.36	88.8	10.3	63.1	4H	64.6
810589		N81-701	HRW	63.6	71.2	0.34	89.0	9.8	63.3	6M	63.3
810590		N81-801	HRW	62.8	71.5	0.36	88.2	10.8	64.2	4H	66.2
810591		N81-901	HRW	62.8	71.5	0.36	88.4	10.2	64.0	8M	66.9
810592		N81-1001	HRW	62.8	73.0	0.37	89.1	11.1	62.9	5H	64.2
810593		N81-1101	HRW	62.0	72.6	0.35	89.9	10.5	62.7	6M	64.4
810594	HATTON I I I	C1017772	HRW	64.4	73.0	0.35	90.4	10.2	63.2	6M	64.6
810595		N81-1201	HRW	62.4	72.6	0.35	90.1	9.2	62.5	4M	62.9
810596	HATTON I V	C1017772	HRW	64.4	72.9	0.35	90.3	10.2	62.8	6M	63.7
810597		N81-1301	HRW	62.4	72.0	0.35	89.4	11.1	62.1	4M	64.4
810598		N81-1302	HRW	62.8	71.3	0.33	89.7	10.4	63.0	6M	65.1
810599		N81-1303	HRW	62.8	71.7	0.33	90.0	10.6	64.1	6M	66.9
810600		N81-1401	HRW	62.4	70.0	0.35	87.3	12.0	61.0	3M	64.2
810601		N81-1402	HRW	62.8	70.2	0.35	87.5	12.0	61.8	3M	65.0
810602		N81-1403	HRW	62.4	70.5	0.35	87.8	11.4	62.4	4M	65.0
810603		N81-1404	HRW	62.0	69.9	0.41	84.2	11.9	60.6	4M	64.7
810604		N81-1405	HRW	62.4	69.6	0.35	86.7	11.8	61.2	3M	64.2
810605		N81-1406	HRW	62.4	72.3	0.36	89.0	11.0	61.6	3M	63.8

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 11% Protein. 5/ Particularly Promising Overall Quality Characteristics.

3/ Observed Values Corrected to 11% Protein. 6/ Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 11% Protein.



LABNUM	VARIETY	IDNO	CLASS	BABSC <u>3/</u>	MTIME <u>4/</u>	LVOL <u>4/</u>	LVOLC <u>4/</u>	BCRGR	CODI	CODIC	RMKS
810571	HATTON I	C1017772	HRW	65.0	3.8	915	958	2	4	4	P-LVOL&BCRGR
810572		N81-101	HRW	66.2	2.5	855	824				P-LVOL&BCRGR
810573		N81-102	HRW	67.3	2.3	885	842				P-LVOL&BCRGR
810574		N81-103	HRW	66.4	5.1	920	864				L-MSCOR
810575		N81-201	HRW	66.5	3.9	870	963				P-LVOL&BCRGR
810576		N81-301	HRW	66.0	2.1	870	920				P-LVOL&BCRGR
810577		N81-401	HRW	64.8	3.9	790	858				P-LVOL&BCRGR
810578		N81-402	HRW	60.4	1.4	890	859				P-LVOL&BCRGR
810579		N81-403	HRW	58.8	2.6	880	936				P-LVOL&BCRGR
810580		N81-404	HRW	62.5	1.7	785	828				P-LVOL&BCRGR
810581		N81-405	HRW	61.5	1.9	905	973				P-MTIME&BCRGR
810582		N81-501	HRW	61.0	1.1	690	727				P-LVOL&BCRGR
810583		N81-502	HRW	60.4	1.2	690	702				P-LVOL&BCRGR
810584		N81-503	HRW	60.4	1.1	705	705				P-LVOL&BCRGR
810585		N81-601	HRW	64.9	3.0	890	896				P-LVOL&BCRGR
810586		N81-602	HRW	63.9	1.9	910	904				P-MTIME&BCRGR
810587		N81-603	HRW	63.5	1.5	825	844				P-MTIME&BCRGR
810588	HATTON I I	C1017772	HRW	65.3	3.7	905	948				P-MTIME&BCRGR
810589		N81-701	HRW	64.5	2.9	850	924				P-MTIME&BCRGR
810590		N81-801	HRW	66.4	4.1	970	982				P-MTIME&BCRGR
810591		N81-901	HRW	67.7	5.4	835	885				P-LVOL&BCRGR
810592		N81-1001	HRW	64.1	4.8	975	969				P-LVOL&BCRGR
810593		N81-1101	HRW	64.9	4.2	930	961				P-LVOL&BCRGR
810594	HATTON I I I	C1017772	HRW	65.4	4.0	880	930				P-LVOL&BCRGR
810595		N81-1201	HRW	64.7	3.5	865	977				P-LVOL&BCRGR
810596	HATTON I V	C1017772	HRW	64.5	3.6	905	955				P-LVOL&BCRGR
810597		N81-1301	HRW	64.3	3.3	860	854				P-LVOL&BCRGR
810598		N81-1302	HRW	65.7	4.1	850	887				P-LVOL&BCRGR
810599		N81-1303	HRW	67.3	3.9	890	915				P-LVOL&BCRGR
810600		N81-1401	HRW	63.2	3.0	875	813				P-LVOL&BCRGR
810601		N81-1402	HRW	64.0	2.7	875	813				P-LVOL&BCRGR
810602		N81-1403	HRW	64.6	3.3	850	825				P-LVOL&BCRGR
810603		N81-1404	HRW	63.8	3.0	835	779				P-LVOL&BCRGR
810604		N81-1405	HRW	63.4	3.0	825	775				P-LVOL&BCRGR
810605		N81-1406	HRW	63.8	2.5	835	835				P-LVOL&BCRGR



NURSCO 20

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS
1/ 3/											
810606		N81-1407	HRW	62.4	72.8	0.37	89.3	10.6	63.0	4M	63.8
810607		N81-1501	HRW	63.2	70.8	0.34	88.5	10.4	62.7	8M	64.3
810608		N81-1601	HRW	63.2	72.2	0.35	89.4	10.6	61.7	5H	63.5
810609		N81-1701	HRW	64.0	70.4	0.34	88.0	9.6	62.6	7M	63.4
810610		N81-1702	HRW	64.0	70.3	0.34	87.9	9.7	62.1	7M	63.0
810611	HATTON V	5/ N81-1703	HRW	64.0	70.3	0.34	88.1	9.6	63.4	7M	64.2
810612		C1017772	HRW	64.4	72.0	0.34	89.8	10.0	62.7	4M	63.9
810613		N81-1801	HRW	62.0	69.6	0.34	87.5	9.1	62.0	4M	63.3
810614		N81-1901	HRW	64.4	72.2	0.34	89.9	10.0	63.0	2H	65.2
810615		N81-2001	HRW	64.0	70.2	0.34	88.0	9.4	60.6	7M	62.2
810616		5/ N81-2101	HRW	62.0	72.5	0.36	89.3	11.7	58.8	6M	61.7
810617		6/ N81-2201	HRW	62.8	71.1	0.36	88.0	10.1	62.4	4M	63.7
810618	HATTON VII	C1017772	HRW	64.0	73.8	0.35	91.2	9.9	61.9	4M	63.0
810619		6/ N81-2202	HRW	62.8	70.2	0.37	86.5	9.4	63.4	4M	64.0
810620		N81-2301	HRW	62.0	70.7	0.38	86.5	10.0	60.2	4M	62.9
810621		N81-2302	HRW	62.4	73.8	0.36	90.7	10.9	59.3	1H	60.4
810622		6/ N81-2401	HRW	63.2	73.7	0.37	89.9	10.5	62.6	4M	65.3
810623		6/ N81-2501	HRW	62.8	70.6	0.37	86.6	10.6	63.3	4M	65.8
810624		6/ N81-2502	HRW	62.4	70.5	0.37	86.5	10.3	62.3	4M	63.8
810625		6/ N81-2601	HRW	62.0	72.4	0.37	88.9	11.5	60.0	3M	61.7
810626		N81-2701	HRW	61.6	72.0	0.36	88.8	9.6	62.0	3M	61.8
810627		N81-2801	HRW	64.0	70.1	0.34	87.6	9.3	61.8	8M	63.3
810628		N81-2901	HRW	62.4	70.5	0.39	85.9	10.4	61.4	7M	64.0
810629		N81-2902	HRW	62.8	70.6	0.39	85.7	10.4	61.8	6M	64.4
810630		N81-2903	HRW	62.0	70.8	0.38	86.6	9.5	60.7	1H	61.9
810631		N81-2904	HRW	62.8	70.6	0.37	86.9	9.3	58.0	2H	59.5
810632		N81-2905	HRW	61.6	70.9	0.39	85.8	11.0	61.1	3H	64.8
810633		N81-2906	HRW	61.2	72.0	0.36	88.7	9.9	58.2	2H	59.3
810634		N81-2907	HRW	61.2	70.4	0.37	86.7	10.5	59.3	2H	59.0
810635		N81-2908	HRW	60.8	70.2	0.41	84.2	10.3	60.8	7M	63.3
810636		N81-2909	HRW	61.2	70.0	0.40	84.6	10.9	59.9	4H	63.5
810637	HATTON VII	C1017772	HRW	63.6	73.4	0.34	91.2	9.9	62.2	4H	63.3
810638		N81-2910	HRW	61.2	70.7	0.37	86.9	9.3	60.3	2H	59.8
810639		N81-3001	HRW	62.4	72.8	0.35	90.0	9.1	59.2	7M	60.0
810640		N81-3101	HRW	61.6	71.0	0.40	85.8	9.0	61.7	7M	62.4



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LABNUM	VARIETY	IDNO	CLASS	BABSC	MTIME	LVOL	LVOLC	BCRGR	CODI	CODIC	RMKS	4/
												3/
810606		N81-1407	HRW	64.2	3.3	885	910	6			P-LVOL&BCRGR	
810607		N81-1501	HRW	64.9	5.5	905	942	4			P-LVOL&BCRGR	
810608		N81-1601	HRW	63.9	7.0	925	950	2			P-BCRGR	
810609		N81-1701	HRW	64.8	4.8	850	937	5			P-BCRGR	
810610		N81-1702	HRW	64.3	5.7	835	916	4			P-BCRGR	
810611	HATTON V	N81-1703	HRW	65.6	5.3	905	992	2			P-BCRGR	
810612		C1017772	HRW	64.9	4.6	900	962	5			P-BCRGR	
810613		N81-1801	HRW	65.2	4.1	875	993	5			P-BCRGR	
810614		N81-1901	HRW	66.2	3.2	935	997	6			P-BCRGR	
810615		N81-2001	HRW	63.8	5.2	875	974	6			P-BCRGR	
810616		N81-2101	HRW	61.0	4.0	1045	1002	1			P-BCRGR	
810617	HATTON VI	N81-2201	HRW	64.6	3.5	933	989	2			Q-MILLING	
810618		C1017772	HRW	64.1	4.2	895	963	4			P-LVOL&BCRGR	
810619		N81-2202	HRW	65.6	3.5	895	994	3			P-LVOL&BCRGR	
810620		N81-2301	HRW	63.9	3.9	790	852	7			P-LVOL&BCRGR	
810621		N81-2302	HRW	60.5	1.5	805	811	8			P-BCRGR	
810622		N81-2401	HRW	65.8	4.3	913	944	3			P-BCRGR	
810623		N81-2501	HRW	66.5	3.5	905	948	2			P-LVOL&BCRGR	
810624		N81-2502	HRW	64.5	3.7	900	943	5			P-BCRGR	
810625		N81-2601	HRW	61.2	2.9	938	907	3			P-LVOL&BCRGR	
810626		N81-2701	HRW	63.2	3.2	810	897	7			P-BCRGR	
810627		N81-2801	HRW	65.0	5.7	890	995	4			P-BCRGR	
810628		N81-2901	HRW	64.6	5.3	805	842	8			P-LVOL&BCRGR	
810629		N81-2902	HRW	65.0	4.8	815	852	6			P-BCRGR	
810630		N81-2903	HRW	63.4	1.9	725	818	8			P-LVOL&BCRGR	
810631		N81-2904	HRW	61.2	2.3	620	725	9			P-BCRGR	
810632		N81-2905	HRW	64.8	4.2	883	883	4			P-BCRGR	
810633		N81-2906	HRW	60.4	1.9	740	808	9			P-LVOL&BCRGR	
810634		N81-2907	HRW	59.5	2.1	910	941	6			P-BCRGR	
810635		N81-2908	HRW	64.0	4.8	840	883	5			P-BCRGR	
810636		N81-2909	HRW	63.6	4.3	888	894	2			P-LVOL&BCRGR	
810637	HATTON VII	C1017772	HRW	64.4	3.8	890	958	2			P-LVOL&BCRGR	
810638		N81-2910	HRW	61.5	1.9	715	820	8			P-LVOL&BCRGR	
810639		N81-3001	HRW	61.9	3.6	815	933	5			P-LVOL&BCRGR	
810640		N81-3101	HRW	64.4	4.3	820	944	6			P-LVOL&BCRGR	



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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE	BABS
810641			HRW	64.0	72.2	0.33	90.7	9.8	62.2	4H	63.7
810642			HRW	62.0	70.5	0.35	87.5	9.4	63.6	4H	65.7
810643			HRW	64.0	72.0	0.32	90.7	9.9	63.3	4H	64.4
810644			HRW	61.6	70.9	0.35	88.3	9.0	62.0	7M	62.2
810645			HRW	62.0	71.6	0.36	88.2	10.3	62.9	3H	64.4
810646			HRW	62.0	71.0	0.36	87.5	10.3	61.8	3H	63.3
810647			HRW	61.6	70.1	0.38	85.6	9.7	62.1	6M	61.5
810648			HRW	62.0	70.1	0.37	86.5	11.8	59.2	1H	62.7
810649			HRW	63.2	72.1	0.38	87.6	11.4	59.9	2H	62.5
810650			SRW	62.8	74.6	0.39	91.4	10.6	62.5	2H	62.3
810651	HATTON VIII	C1017772	HRW	62.8	72.9	0.33	91.1	9.7	62.7	6M	63.6
810652		N81-3701	HRW	62.8	72.3	0.39	87.7	11.5	60.7	2H	61.9
810653		N81-802	HRW	60.8	72.7	0.37	88.9	11.0	61.7	2H	60.4
810654		N81-803	HRW	61.2	72.0	0.36	88.8	12.7	59.8	2H	62.7
810655		N81-3801	HRW	61.6	71.0	0.35	88.4	10.2	63.7	4H	67.6
810656		N81-3901	HRW	61.2	68.4	0.35	85.7	10.0	63.7	4H	66.9
810657		N81-4001	HRW	62.8	71.5	0.35	88.6	10.4	62.6	4H	64.2
810658		N81-4002	HRW	62.8	73.1	0.35	90.4	10.4	61.6	3H	61.7
810659	HATTON IX	C1017772	HRW	63.2	72.2	0.33	90.3	9.8	62.1	4H	63.1
810660		5/ N81-4101	HRW	63.2	72.6	0.33	90.8	10.8	62.4	3H	64.4
810661		6/ N81-4201	HRW	63.6	70.2	0.33	88.3	11.1	64.6	4H	66.9
810662		6/ N81-4202	HRW	63.2	71.1	0.34	88.9	11.0	64.7	4H	66.9
810663		6/ N81-4301	HRW	61.6	70.2	0.35	87.4	10.7	64.8	4H	67.7
810664		N81-4302	HRW	61.2	69.5	0.35	86.5	10.0	63.0	4H	64.7
810665		N81-4303	HRW	61.2	68.1	0.33	86.2	9.0	61.4	4H	61.6
810666		6/ N81-4304	HRW	61.6	69.3	0.33	87.4	9.5	64.3	5H	66.5
810667		N81-4305	HRW	62.0	69.5	0.35	86.9	10.1	61.3	4H	62.6
810668		N81-4401	HRW	61.6	70.5	0.37	86.7	8.9	61.8	7M	61.9
810669	HATTON X	C1017772	HRW	62.8	71.3	0.33	89.5	9.9	62.8	4H	63.9
810670		N81-4501	HRW	61.2	70.0	0.34	87.6	11.7	56.7	2H	60.6
810671		N81-4601	HRW	61.6	68.1	0.37	84.4	13.1	59.3	2H	66.6
810672		N81-4701	HRW	62.4	68.6	0.36	85.3	10.3	61.5	4H	64.0
810673		N81-4702	HRW	61.2	69.4	0.35	86.5	11.9	61.6	4H	66.7
810674		N81-4703	HRW	62.0	71.0	0.35	88.4	12.3	61.0	4H	64.5
810675		5/ N81-4704	HRW	61.6	71.4	0.35	88.6	10.9	58.8	2H	61.7



LABNUM	VARIETY	IDNO	CLASS	BABSC 3/	MTIME	LVOL	LVOCL 4/	BCRGR	CODI	CODIC	RMKS
<u>4/</u>											
810641		N81-3102	HRW	64.9	4.0	880	954	2			P-LVOL&BCRGR
810642		N81-3103	HRW	67.3	4.8	775	875	6			Q-BCRGR
810643		N81-3104	HRW	65.5	3.8	805	943	2			
810644		N81-3105	HRW	64.2	4.4	940	929	4			
810645		N81-3201	HRW	65.1	3.5	983	983	3			
810646		N81-3202	HRW	64.0	3.6	955	998	5			P-BCRGR
810647		N81-3301	HRW	62.8	4.3	915	996	2			P-FYELD
810648		N81-3401	HRW	61.9	1.8	810	760	6			P-LVOL&BCRGR
810649		N81-3501	HRW	62.1	3.1	925	900	2			Q-MILLING
810650		N81-3601	SRW	62.7	1.7	940	964	6			8.51 EXCELLENT MIL-SOFT
810651	HATTON VIII	C1017772	HRW	64.9	3.6	910	991	2			P-LVOL&BCRGR
810652		N81-3701	HRW	61.4	2.3	935	904	6			P-LVOL&BCRGR
810653		N81-802	HRW	60.4	3.0	900	900	3			P-LVOL&BCRGR
810654		N81-803	HRW	61.0	2.4	905	800	5			P-LVOL&BCRGR
810655		N81-3801	HRW	68.4	4.7	878	928	4			P-LVOL&BCRGR
810656		N81-3901	HRW	67.9	4.1	840	902	5			P-BCRGR
810657		N81-4001	HRW	64.8	4.1	955	992	4			P-LVOL&BCRGR
810658		N81-4002	HRW	62.3	2.5	915	952	5			P-LVOL&BCRGR
810659	HATTON IX	C1017772	HRW	64.3	3.4	900	974	2			P-LVOL&BCRGR
810660		N81-4101	HRW	64.6	3.3	995	1007	2			
810661		N81-4201	HRW	66.8	3.5	955	949	2			
810662		N81-4202	HRW	66.9	3.4	960	960	2			
810663		N81-4301	HRW	68.0	4.2	988	1007	3			
810664		N81-4302	HRW	65.7	4.2	935	997	4			
810665		N81-4303	HRW	63.6	3.8	865	989	8			
810666		N81-4304	HRW	68.0	7.2	860	953	2			
810667		N81-4305	HRW	63.5	3.5	865	921	6			P-LVOL&BCRGR
810668		N81-4401	HRW	64.0	4.5	755	885	8			P-LVOL&BCRGR
810669	HATTON X	C1017772	HRW	65.0	4.0	930	998	2			P-LVOL&BCRGR
810670		N81-4501	HRW	59.9	2.3	865	822	8			
810671		N81-4601	HRW	64.5	2.5	940	810	4			P-LVOL&BCRGR
810672		N81-4701	HRW	64.7	4.8	855	898	6			P-LVOL&BCRGR
810673		N81-4702	HRW	65.8	3.7	970	914	2			P-FYELD
810674		N81-4703	HRW	63.2	3.3	995	914	1			P-LVOL&BCRGR
810675		N81-4704	HRW	61.8	2.8	860	866	5			



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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS												
<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td><u>1/</u></td><td></td><td></td><td></td><td><u>2/</u></td><td></td><td><u>3/</u></td></tr> </table>																<u>1/</u>				<u>2/</u>		<u>3/</u>	
					<u>1/</u>				<u>2/</u>		<u>3/</u>												
810676		N81-4705	HRW	61.6	69.3	0.37	85.2	11.2	62.0	4H	66.9												
810677		N81-1002	HRW	61.2	71.1	0.34	88.8	10.0	60.9	4H	63.1												
810678		N81-4801	HRW	61.2	71.4	0.37	87.8	10.3	58.8	3H	61.8												
810679		N81-4901	HRW	62.0	66.9	0.35	84.1	11.6	60.9	4H	65.7												
810680		N81-5001	HRW	60.8	73.8	0.33	92.4	12.3	50.6	1H	54.1												
810681	HATTON XI	N81-5002	HRW	62.8	73.9	0.33	92.4	11.6	51.9	1H	54.7												
810682		C1017772	HRW	63.2	72.1	0.33	90.6	9.9	59.0	3H	60.1												
810683		N81-5101	HRW	62.0	69.9	0.32	88.5	11.4	58.3	3H	60.9												
810684		N81-5102	HRW	61.6	70.3	0.32	89.3	11.0	61.5	4H	64.2												
810685		5/ N81-5201	HRW	62.0	70.0	0.33	88.3	12.4	61.6	3H	65.2												
810686		N81-5202	HRW	62.8	69.8	0.33	88.2	9.0	60.5	3H	61.7												
810687		N81-5203	HRW	62.4	68.7	0.36	85.5	8.8	61.7	4H	61.7												
810688		N81-1304	HRW	61.2	70.6	0.33	89.1	11.9	62.8	4H	66.4												
810689		N81-1305	HRW	61.2	70.6	0.33	89.1	12.1	64.4	3H	68.2												
810690		N81-1306	HRW	62.0	71.9	0.33	90.2	11.7	62.8	3H	65.7												
810691		N81-1307	HRW	63.2	72.6	0.33	90.9	11.1	63.1	3H	65.9												
810692		N81-5301	HRW	64.0	70.2	0.33	88.5	8.8	61.9	4H	62.9												
810693		N81-5302	HRW	64.0	69.6	0.33	87.9	8.9	62.6	4H	63.7												
810694		N81-5401	SRW	75.2	0.43	89.5	11.0	56.1	1H														
810695		N81-5501	SRW	62.8	70.5	0.33	89.6	11.0	58.3	3H	60.5												
810696	HATTON XII	C1017772	HRW	64.0	72.9	0.34	90.8	10.7	61.8	4H	62.7												
810697		N81-5601	HRW	62.4	70.6	0.36	87.1	9.4	61.1	4H	61.7												
810698		N81-5701	HRW	62.0	69.3	0.34	86.9	9.6	65.1	5H	65.9												
810699		5/ N81-5801	HRW	61.6	71.5	0.33	89.9	11.3	64.5	3H	67.0												
810700		5/ N81-5901	HRW	62.0	73.7	0.33	91.9	11.0	64.8	4H	66.0												
810701		N81-6001	HRW	62.4	68.1	0.33	86.3	10.6	65.3	3H	67.1												
810702		N81-6002	HRW	62.4	69.3	0.34	87.0	10.8	65.0	3H	66.0												
810703		5/ N81-6101	HRW	62.8	72.9	0.36	89.9	11.1	65.6	4H	67.9												
810704	HATTON XIII	C1017772	HRW	63.2	72.4	0.35	89.6	10.0	63.7	3H	63.9												
810705		6/ N81-6201	SRW	62.4	76.3	0.37	94.8	12.8	56.8	2H	61.8												
810706		N81-6301	HRW	61.6	70.2	0.35	87.5	9.9	60.6	6M	61.7												
810707		N81-6401	HRW	62.8	69.6	0.38	85.4	9.3	60.9	7M	62.4												
810708	HATTON XIV	C1017772	HRW	63.6	72.3	0.35	89.8	10.0	61.5	6M	62.7												
810709		N81-6501	HRW	62.0	70.8	0.36	87.8	8.8	60.6	2H	60.6												
810710		N81-6601	HRW	60.8	68.5	0.36	85.4	11.5	57.8	2H	62.3												



LABNUM	VARIETY	IDNO	CLASS	BABSC	MTIME	LVOL	LVOLC	BCRGR	CODI	CODIC	RMKS	4/
												3/
810676		N81-4705	HRW	66.7	4.6	903	891					P-FYIELD
810677		N81-1002	HRW	64.1	3.9	865	927	6				P-BCRGR
810678		N81-4801	HRW	62.5	2.9	905	948	6				P-BCRGR
810679		N81-4901	HRW	65.1	4.3	870	833	2				P-LVOL
810680		N81-5001	HRW	52.8	1.7	750	669	9				P-LVOL&BCRGR
810681	HATTON XI	N81-5002	HRW	54.1	1.7	690	653	9				P-LVOL&BCRGR
810682	HATTON XI	C1017772	HRW	61.2	2.8	865	933	6				P-BCRGR
810683		N81-5101	HRW	60.5	2.9	885	860	6				P-LVOL&BCRGR
810684		N81-5102	HRW	64.2	3.9	875	875	6				P-LVOL&BCRGR
810685		N81-5201	HRW	63.8	2.6	1095	1008	2				
810686		N81-5202	HRW	63.7	4.0	785	909	7				P-BCRGR
810687		N81-5203	HRW	63.9	3.9	755	891	9				P-BCRGR
810688		N81-1304	HRW	65.5	3.4	945	889	2				
810689		N81-1305	HRW	67.1	3.1	955	887	2				
810690		N81-1306	HRW	65.0	2.8	855	812	3				P-LVOL
810691		N81-1307	HRW	65.8	2.9	845	839	6				P-LVOL&BCRGR
810692		N81-5301	HRW	65.1	4.0	760	896	8				P-LVOL&BCRGR
810693		N81-5302	HRW	65.8	3.5	740	870	9				P-LVOL&BCRGR
810694		N81-5401	SRW									SOFT RED
810695		N81-5501	SRW	60.5	2.8	860	860	2				SOFT RED
810696	HATTON XII	C1017772	HRW	63.0	3.3	913	932	4				P-BCRGR
810697		N81-5601	HRW	63.3	5.1	900	999	6				P-FYIELD
810698		N81-5701	HRW	67.3	5.2	900	987	3				P-LVOL&BCRGR
810699		N81-5801	HRW	66.7	3.3	845	826	7				
810700		N81-5901	HRW	66.0	3.5	960	960	2				
810701		N81-6001	HRW	67.5	2.9	880	905	3				P-FYIELD
810702		N81-6002	HRW	66.2	3.3	868	880	2				Q-FYIELD&LVOL
810703	HATTON XII	N81-6101	HRW	67.8	4.2	1030	1024	1				
810704	HATTON XII	C1017772	HRW	64.9	3.5	900	962	2				
810705		N81-6201	SRW	60.0	2.0	955	847	2				
810706		N81-6301	HRW	62.8	3.4	785	853	6				P-LVOL&BCRGR
810707		N81-6401	HRW	64.1	3.9	875	980	4				P-MILLING-BCRGR
810708	HATTON XIV	C1017772	HRW	63.7	3.5	875	937	2				
810709		N81-6501	HRW	62.8	2.8	850	986	4				P-BCRGR
810710		N81-6601	HRW	61.8	2.5	740	709	8				P-LVOL&BCRGR



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LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS
					1/			1/	3/		
810711											
810712											
810713	HATTON XV										
810714											
810715											
810716											
810717											
810718											
810719											
810720											
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810725											
810726											
810727	HATTON XV										
810728											
810729											
810730											
810731											
810732											
810733											
810734											
810735											
810736											
810737											
810738											
810739											
810740											
5/ N81-8103											
6/ N81-7903											
6/ N81-8001											
6/ N81-8202											
6/ N81-8203											
C1017772											

HATTON XVII



LIND, WA E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABSC 3/	MTIME	LVOL	LVOL 4/	BCRGR	CODI	CODIC 4/	RMKS
810711		N81-6701	HRW	66.0	3.2	918	937		2		
810712		N81-6702	HRW	64.0	2.9	858	895		3		
810713		N81-6801	HRW	67.1	2.4	910	978		4		
810714	HATTON XV	C1017772	HRW	63.5	3.8	900	931		2		
810715		N81-6901	HRW	59.0	2.6	940	841		3		
810716		N81-6902	HRW	59.4	2.5	920	883		4		
810717		N81-6903	HRW	69.4	4.4	835	829		6		
810718		N81-7001	HRW	56.6	3.2	670	627		9		
810719		N81-7002	HRW	57.3	3.7	655	568		9		
810720		N81-7101	HRW	60.6	3.5	655	587		9		
810721		N81-7201	HRW	57.3	2.2	800	732		8		
810722		N81-7301	HRW	60.6	2.5	883	840		3		
810723		N81-7302	HRW	58.2	2.9	875	869		4		
810724		N81-7401	HRW	63.4	4.0	860	835		4		
810725		N81-7402	HRW	62.9	3.1	865	840		3		
810726		N81-7501	HRW	57.2	3.5	780	805		5		
810727	HATTON XV	C1017772	HRW	62.1	3.4	895	932		3		
810728		N81-7601	HRW	65.9	4.0	900	869		3		
810729		N81-7701	HRW	61.4	2.8	900	819		2		
810730		N81-7702	HRW	60.7	2.6	950	857		2		
810731		N81-7703	HRW	59.7	2.3	970	865		3		
810732		N81-7704	HRW	63.0	4.3	940	828		3		
810733		N81-7801	HRW	59.2	2.5	805	737		7		
810734		N81-7802	HRW	58.6	2.4	795	714		8		
810735		N81-7901	HRW	64.0	3.8	950	894		2		
810736		N81-7902	HRW	64.9	3.2	1030	937		2		
810737		N81-7903	HRW	65.5	3.0	970	920		2		
810738		N81-8001	HRW	60.0	1.3	865	896		6		
810739		N81-8101	HRW	70.0	5.1	800	843		6		
810740		N81-8102	HRW	67.4	6.5	730	786		8		
810741		N81-8103	HRW	66.3	3.8	975	950		2		
810742		N81-8201	HRW	67.5	5.2	853	915		6		
810743		N81-8202	HRW	67.7	4.1	880	923		3		
810744		N81-8203	HRW	67.7	5.3	898	923		2		
810745	HATTON XVII	C1017772	HRW	64.8	3.4	940	900		3		



E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH 1/	MSCOR	FPROT	MABSC 1/	MTYPE	BABS 3/
810746		N81-8301	HRW	61.6	68.0	0.34	85.6	10.6	64.9	5H	68.2
810747		N81-8401	HRW	62.0	71.8	0.34	89.6	9.7	54.5	1M	53.4
810748	HATTON XVIII	N81-8501	HRW	62.4	71.1	0.35	88.2	10.2	63.6	7M	67.5
810749	HATTON XVIII	C1017772	HRW	64.0	72.6	0.34	90.6	10.5	63.3	4H	64.0
810750	NUGAINES	C1013968	SWW	63.6	69.9	0.34	88.6	9.4	60.3	4M	
810751	MORO	C1013740	CLUB	62.0	73.3	0.36	91.7	9.3	57.0	3M	
810752		6/N81-1704	SWW	62.8	70.9	0.37	88.1	9.1	57.4	4M	
810753		6/N81-1802	HWW	62.4	69.8	0.35	86.7	9.8	59.7	6M	
810754	HATTON XIX	C1017772	HRW	64.0	72.6	0.33	91.0	11.2	63.1	4H	60.7
810755	NUGAINES	C1013968	SWW	63.2	69.4	0.34	88.1	9.6	61.4	3M	65.5
810756	MORO	C1013740	CLUB	60.8	71.5	0.36	89.3	10.3	58.7	2M	
810757		6/N81-5502	SWW	60.4	63.2	0.36	78.5	10.3	60.1	4M	
810758		6/N81-2102	SWW	62.0	70.5	0.38	86.4	9.6	53.7	1M	
810759		6/N81-2103	SWW	61.6	69.9	0.38	85.7	9.8	53.7	1M	
810760		6/N81-8601	SWW	61.6	68.2	0.38	83.8	9.0	58.8	3M	
810761		5/N81-8701	SWW	62.8	72.4	0.36	90.1	9.2	58.4	2M	
810762		6/N81-8702	SWW	61.2	71.2	0.39	86.6	9.5	58.5	3M	
810763		N81-4102	HWW	62.8	70.6	0.35	87.8	9.5	60.7	4M	
810764	HATTON XX	C1017772	HRW	63.6	71.9	0.33	90.3	10.0	62.7	4M	
810765	NUGAINES	C1013968	SWW	63.2	69.6	0.33	88.8	8.9	60.0	3M	
810766	MORO	C1013740	CLUB	60.8	72.2	0.36	90.1	9.6	54.3	2M	
810767		5/N81-8801	HWW	62.8	69.6	0.33	88.0	10.5	63.0	4H	64.7
810768		5/N81-8802	HWW	62.8	70.3	0.32	88.9	10.2	64.1	5H	66.5
810769		N81-8803	HWW	62.4	69.8	0.32	88.4	10.3	64.0	5H	65.5
810770		N81-1002	HWW	62.8	69.4	0.33	87.6	10.8	61.5	4M	63.5
810771	MORO	N81-5702	HWW	62.4	69.4	0.33	87.8	10.6	57.8	4H	62.6
810772	XXI	6/N81-6202	SWW	60.4	69.0	0.37	85.3	10.9	56.9	2H	
810773		6/N81-6203	SWW	63.6	70.5	0.34	89.5	10.3	58.6	6M	
810774		N81-8901	HWW	62.0	68.7	0.35	85.8	12.1	56.9	2H	62.0
810775		6/N81-9001	HWW	62.8	71.7	0.34	89.5	11.0	62.2	4H	64.4
810776		N81-9101	HWW	61.2	70.6	0.38	86.3	10.1	59.9	4H	62.2



NURSCO 20

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABSC <u>3/</u>	MTIME	LVOL	LVOLC <u>4/</u>	BCRGR	CODI	CODIC	RMKS <u>4/</u>
810746		N81-8301	HRW	68.6	6.2	965	990	2			
810747		N81-8401	HRW	54.7	1.0	655	736	9			
810748	HATTON XVII	N81-8501	HRW	68.3	6.5	945	995	4			
810749	HATTON XVII	C1017772	HRW	64.5	3.1	905	936	3			
810750	NUGAINES	C1013968	SWW								
810751	MORO	C1013740	CLUB								
810752		N81-1704	SWW								
810753		N81-1802	HWW								
810754	HATTON XIX	C1017772	HRW								
810755	NUGAINES	C1013968	SWW								
810756	MORO	C1013740	CLUB								
810757		N81-5502	SWW								
810758		N81-2102	SWW								
810759		N81-2103	SWW								
810760		N81-8601	SWW								
810761		N81-8701	SWW								
810762		N81-8702	SWW								
810763		N81-4102	HWW								
810764	HATTON XX	C1017772	HRW								
810765	NUGAINES	C1013968	SWW								
810766	MORO	C1013740	CLUB								
810767		N81-8801	HWW								
810768		N81-8802	HWW								
810769		N81-8803	HWW								
810770		N81-1002	HWW								
810771	XXI	N81-5702	HWW	63.0	3.8	805	830	8	8.56	8.55	
810772	XXI	N81-6202	SWW								
810773		N81-6203	SWW								
810774		N81-8901	HWW	60.9	2.5	815	747	7			
810775		N81-9001	HWW	64.4	4.4	990	990	1			
810776		N81-9101	HWW	63.1	4.3	855	911	7			

COMMENTS: This group contains 21 nurseries. Each nursery was judged in comparison with the check variety (usually Hatton) within the nursery. See "REMARKS" for deficiencies (P = poor, Q = questionable).

P-FYIELD

P-LVOL&BCRGR

Q-BCRGR

P-FYIELD

P-LVOL&BCRGR

Q-BCRGR

P-FYIELD

P-LVOL&BCRGR

Q-BCRGR



NURSCO 21

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
810777	HATTON	C1017772	HRW	64.1	74.9	0.40	90.9	10.4	61.4	4H
810778	NEELEY	C1017860	HRW	63.7	69.7	0.37	82.7	10.7	63.2	5H
810779	WANSER	C1013844	HRW	63.2	73.1	0.38	89.7	10.7	63.1	5H
810780	WESTON	C1017727	HRW	63.4	71.5	0.37	87.7	10.7	63.9	4H
810781	MC CALL	C1013842	HRW	63.9	73.5	0.38	89.3	10.2	63.9	5H
810782		N78-205	HRW	62.7	69.9	0.38	83.0	10.4	63.1	4H
810783		N78-207	HRW	62.5	70.5	0.37	83.6	10.7	62.3	4H
810784		N78-1004	HRW	63.7	71.0	0.36	85.0	10.1	61.7	4H
810785		N78-1603	HRW	62.7	71.0	0.38	84.8	11.7	61.8	3H
810786		N78-2901	HRW	62.8	72.5	0.36	87.8	10.2	60.1	3H
810787		<u>6/</u> N79-201	HRW	62.1	74.1	0.39	87.0	10.1	62.6	5H
810788		N79-202	HRW	62.9	73.8	0.38	90.5	10.2	60.3	4H
810789		N79-203	HRW	63.8	72.6	0.37	88.0	10.4	61.1	4H
810790		N79-901	HRW	62.9	72.1	0.37	86.9	10.7	63.3	5H
810791		<u>5/</u> N79-2301	HRW	62.9	74.4	0.38	90.7	10.2	61.2	4H
810792		N79-2901	HRW	62.8	70.4	0.37	85.5	9.8	59.7	8M
810793		N79-2902	HRW	63.0	69.4	0.37	83.4	10.4	61.4	5H
810794		N79-3301	HRW	62.3	68.1	0.39	80.9	9.5	61.1	8M
810795		N79-3302	HRW	61.0	69.5	0.38	83.6	10.1	61.7	5H
810796		N79-3405	HRW	63.4	68.2	0.37	81.1	9.9	61.0	3H
810797		<u>6/</u> N79-4302	HRW	63.0	70.9	0.36	86.2	10.2	64.1	5H
810798		N79-4704	HRW	62.1	70.7	0.38	84.8	11.0	60.8	2H
810799		WA6815	HRW	62.3	72.7	0.39	88.8	10.3	59.8	3H
810800		WA6816	HRW	63.0	71.7	0.37	87.3	8.7	60.7	2H
810801		WA6817	HRW	61.9	69.0	0.37	83.1	9.8	62.0	4H
810802		<u>6/</u> N80-101	HWW	63.2	70.9	0.36	86.7	10.5	62.5	5H
810803		N80-201	HWW	63.5	70.0	0.38	83.8	10.6	62.4	4H
810804		N80-202	SWW	63.8	69.5	0.36	80.3	9.5	60.0	3H
810805		N80-203	HRW	62.2	67.9	0.38	80.8	10.5	62.8	5H
810806		N80-301	HRW	62.5	73.7	0.37	90.7	11.5	63.6	2H
810807		N80-302	HRW	62.7	70.7	0.37	85.7	10.3	63.2	4H
810808		N80-401	HRW	60.9	68.2	0.36	82.6	11.8	63.4	4H
810809		N80-501	HRW	62.7	68.9	0.38	82.3	9.7	61.0	4H
810810		N80-601	HRW	63.0	69.5	0.38	83.3	10.0	62.5	3H
810811		<u>6/</u> N80-602	HRW	62.9	71.3	0.39	86.1	10.0	62.0	3H



LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS *
810777	HATTON	C1017772	HRW	64.0	63.6	4.2	915	890	2	P-FYIELD
810778	NEELEY	C1017860	HRW	66.1	65.4	4.8	905	862	2	P-FYIELD
810779	WANSER	C1013844	HRW	66.0	65.3	6.0	940	892	2	P-FYIELD&LVOL
810780	WESTON	C1017727	HRW	68.3	67.6	4.2	915	872	2	P-FYIELD&LVOL
810781	MCALL	C1013842	HRW	67.3	67.1	5.9	880	870	2	P-LVOL&BCRGR
810782		N78-205	HRW	65.7	65.3	3.9	930	905	2	Q-LVOL
810783		N78-207	HRW	65.2	64.5	4.2	915	872	2	P-LVOL&BCRGR
810784		N78-1004	HRW	66.0	65.9	5.1	838	832	2	P-LVOL&BCRGR
810785		N78-1603	HRW	66.7	65.0	3.6	910	805	2	P-LVOL&BCRGR
810786		N78-2901	HRW	64.5	64.3	3.0	850	838	4	P-LVOL&BCRGR
810787		N79-201	HRW	66.4	66.3	5.7	855	849	2	P-FYIELD
810788		N79-202	HRW	65.2	65.0	4.0	860	848	4	P-FYIELD
810789		N79-203	HRW	66.7	66.3	4.9	858	833	4	P-FYIELD
810790		N79-901	HRW	66.2	65.5	4.0	925	882	2	P-FYIELD
810791		N79-2301	HRW	65.1	64.9	3.6	920	908	2	P-FYIELD
810792		N79-2901	HRW	64.7	64.9	6.4	905	917	4	P-FYIELD&BCRGR
810793		N79-2902	HRW	66.0	65.6	5.5	930	905	2	P-FYIELD
810794		N79-3301	HRW	63.8	64.3	4.0	725	756	8	P-FYIELD, LVOL&BCRG
810795		N79-3302	HRW	66.5	66.4	4.8	850	844	6	P-FYIELD, LVOL&BCRG
810796		N79-3405	HRW	64.6	64.7	3.7	860	866	4	P-FYIELD, LVOL&BCRG
810797		N79-4302	HRW	66.5	66.3	4.5	950	938	2	Q-FYIELD
810798		N79-4704	HRW	65.0	64.0	2.5	780	718	6	P-FYIELD, LVOL&BCRG
810799		WA6815	HRW	63.3	63.0	3.4	825	806	6	P-FYIELD, LVOL&BCRG
810800		WA6816	HRW	62.6	63.9	3.0	790	871	6	P-FYIELD&BCRGR
810801		WA6817	HRW	65.5	65.7	4.3	790	802	6	P-FYIELD&LVOL&BCRG
810802		N80-101	HWW	66.7	66.2	4.4	1000	969	2	P-FYIELD
810803		N80-201	HWW	66.7	66.1	3.3	980	943	2	P-FYIELD
810804		N80-202	SWW	61.7	62.2	3.0	1060	1090	2	P-FYIELD
810805		N80-203	HRW	68.5	68.0	5.2	955	924	5	P-MTIME&BCRGR
810806		N80-301	HRW	66.8	65.3	1.5	1005	912	5	P-FYIELD&LVOL
810807		N80-302	HRW	65.7	65.4	3.3	900	881	5	P-FYIELD&BCRGR
810808		N80-401	HRW	67.9	66.1	4.1	930	818	3	P-FYIELD&LVOL
810809		N80-501	HRW	63.9	64.2	4.0	870	889	5	P-FYIELD&BCRGR
810810		N80-601	HRW	64.7	64.7	3.1	990	990	2	P-FYIELD
810811		N80-602	HRW	65.7	65.7	3.3	925	925	2	



NURSCO 21

LIND, WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH <u>1/</u>	MSCOR	FPROT <u>1/</u>	MABSC <u>3/</u>	MTYPE
810812		N80-603	HWW	63.7	70.5	0.41	83.0	9.2	59.5	3H
810813		N80-604	HRW	62.7	68.6	0.40	80.6	9.9	61.3	3H



E. DONALDSON

LIND, WA

NURSCO 21

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC <u>3/</u>	MTIME	LVOL	LVOLC <u>4/</u>	BCRGR	RMKS
810812		N80-603	HWW	62.9	63.7	3.6	870	920	3	L-FYIELD
810813		N80-604	HRW	63.4	63.5	3.3	970	976	2	L-FYIELD

1/ Observed Values Corrected to 14% Moisture Basis.      5/ Particularly Promising Overall Quality Characteristics.

3/ Absorption at 14% Moisture Corrected to 10% Protein.      6/ Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 10% Protein.

COMMENTS: Several of the selections were good in either milling or baking properties but not both. Selection 79-2301 is outstanding in overall quality.

\* P = Poor, Q = Questionable, L = Low



LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	RMKS
				1/			1/		1/	3/		4/	
810814	WAVERLY LIND	C1017911	SWS	58.4	72.0	0.46	83.4	11.6	56.9	8.95	9.13	2H	
810815	URQUIE	C1017413	SWS	61.2	72.8	0.45	85.2	10.4	58.1	9.00	9.04	2H	
810816	POTAM 70/WA6021	6/ WA6826	SWS	60.4	73.3	0.42	87.5	10.4	56.2	9.16	9.21	2M	
810817	POTAM 70/WA6021	5/ WA6830	SWS	60.8	73.6	0.39	90.1	9.7	55.2	8.96	8.93	2M	
810818	POTAM 70/WA6021	6/ WA6831	SWS	60.8	71.8	0.39	87.8	9.9	55.0	9.21	9.20	2M	
810819	WAVERLY ROYAL SLOPE	C1017911	SWS	62.0	71.7	0.44	84.5	10.7	56.7	8.99	9.06	3M	
810820	URQUIE	C1017413	SWS	62.4	72.9	0.46	84.8	9.4	55.9	9.12	9.06	3M	
810821	POTAM 70/WA6021	6/ WA6826	SWS	63.6	71.7	0.42	85.4	10.2	55.9	9.10	9.12	3M	
810822	POTAM 70/WA6021	5/ WA6830	SWS	62.4	72.5	0.44	85.2	9.2	54.3	9.09	9.00	3M	
810823	POTAM 70/WA6021	6/ WA6831	SWS	61.6	72.2	0.42	86.2	10.3	54.5	9.00	9.03	2M	
810829	WAVERLY HARRINGTON	C1017911	SWS	58.4	69.4	0.46	80.0	10.4	57.0	9.02	9.07	3M	
810830	URQUIE	C1017413	SWS	60.0	69.9	0.44	81.9	9.8	57.7	9.07	9.05	3M	
810831	POTAM 70/WA6021	6/ WA6826	SWS	58.4	71.5	0.43	84.8	9.4	55.7	9.02	8.96	3M	
810832	POTAM 70/WA6021	5/ WA6830	SWS	58.4	69.9	0.41	84.1	8.3	53.8	8.89	8.70	3L	
810833	POTAM 70/WA6021	6/ WA6831	SWS	57.6	69.1	0.42	82.6	8.7	54.6	8.90	8.76	3L	

1/ Observed Values Corrected to 14% Moisture Basis.

3/ Absorption at 14% Moisture Corrected to 10% Protein.

4/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.

COMMENTS: These three selections grown in nurseries at Lind, Royal Slope, and Harrington, WA are slightly better in milling than Urquie and Waverly and about equal in flour baking properties.



C. F. KONZAK

LIND, WA

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS
					1/		1/	1/	3/		
810834	URQUIE	C1017413	SWS	61.2	72.7	0.45	84.9	10.4	58.9	2M	55.5
810835	WAMPUM	C1017691	HRS	60.0	71.7	0.42	85.4	13.2	60.5	4H	62.9
810836	WAVERLY	C1017911	SWS	56.8	69.0	0.45	80.5	12.3	58.8	2H	58.3
810837		K79-5085	SWS	57.2	69.1	0.43	81.4	11.7	56.4	3H	59.3
810838		K79-5089	SWS	57.6	68.6	0.41	82.0	11.3	58.8	3H	60.3
810839		<u>6/K79-5090</u>	SWS	57.6	68.3	0.41	81.7	11.8	57.2	4M	59.2
810840		K79-5091	SWS	57.2	67.7	0.41	81.2	11.6	58.9	4M	60.0
810841		<u>6/K79-5092</u>	SWS	58.4	69.7	0.41	84.0	11.3	58.0	4M	60.5
810842		<u>6/K79-5094</u>	SWS	57.6	68.1	0.43	80.2	11.8	59.2	4H	61.2
810843		K79-5095	SWS	56.8	69.0	0.43	81.3	11.6	57.7	4M	59.5
810844		<u>6/K79-5096</u>	SWS	58.0	68.7	0.41	82.6	11.5	58.1	4M	59.8
810845		<u>6/K79-5097</u>	SWS	56.4	69.2	0.44	81.1	11.4	57.6	3M	59.2
810846		K79-5147	SWS	60.0	69.0	0.45	80.2	10.8	56.7	4M	57.7
810847		<u>6/K79-5202</u>	SWS	59.6	66.9	0.46	77.2	11.7	56.3	3M	58.2
810848		<u>6/K79-5460</u>	SWS	55.6	68.1	0.47	78.1	11.3	56.5	3M	56.0
810849		<u>5/K79-5549</u>	SWS	57.2	70.1	0.42	83.4	11.7	56.2	4M	58.1
810850		<u>6/K79-5650</u>	SWS	56.0	68.5	0.45	79.6	12.4	57.5	3H	60.4
810851		<u>6/K79-5651</u>	SWS	56.0	68.5	0.46	79.1	11.9	58.2	3H	61.1
810852		K79-5665	SWS	55.6	67.4	0.46	77.4	12.3	59.7	3H	60.7
810853		K79-5656	SWS	54.4	66.7	0.46	76.6	12.5	58.8	3H	61.5
810854		K79-5659	SWS	54.0	66.4	0.46	76.2	12.9	59.0	3H	62.1
810855		K79-5660	SWS	54.8	66.7	0.46	76.7	12.5	58.3	3H	61.0
810856		K79-5663	SWS	54.0	66.2	0.45	76.4	12.5	59.3	3H	61.0
810857		K79-5666	SWS	55.6	67.1	0.44	78.3	12.2	61.2	4H	60.6
810858		K79-5669	SWS	55.6	67.2	0.40	80.9	12.3	58.1	3H	60.6
810859		K79-5750	SWS	56.4	67.1	0.45	78.1	12.0	60.0	3H	62.2



LABNUM	VARIETY	IDNO	CLASS	BABSC	MTIME	LVOL	LVOLOC	BCRGR	CODI	CODIC	RMKS
<u>3/</u>											
<u>4/</u>											
810834	URQUIE	C1017413	SWS	57.1	1.8	955	1051	3	8.96	8.79	
810835	WAMPUM	C1017691	HRS	61.7	4.3	1070	996	2	8.60	8.70	
810836	WAVERLY	C1017911	SWS	58.0	1.9	1010	992	2	8.91	8.95	P-COOKIE
810837		K79-5085	SWS	59.6	3.8	1055	1073	2	8.61	8.58	P-COOKIE
810838		K79-5089	SWS	61.0	4.6	1060	1102	2	8.45	8.37	P-COOKIE
810839		K79-5090	SWS	59.4	4.2	1065	1077	2	8.74	8.72	
810840		K79-5091	SWS	60.4	5.0	1035	1059	2	8.60	8.56	P-COOKIE
810841		K79-5092	SWS	61.2	4.3	1045	1087	2	8.54	8.56	P-COOKIE
810842		K79-5094	SWS	61.4	4.9	1055	1067	2	8.70	8.68	
810843		K79-5095	SWS	59.9	3.6	1035	1059	3	8.69	8.64	Q-BCRGR, P-COOKIE
810844		K79-5096	SWS	60.3	4.6	1030	1060	2	8.81	8.76	
810845		K79-5097	SWS	59.8	3.5	1078	1114	2	8.81	8.75	
810846		K79-5147	SWS	58.9	4.3	1000	1072	3	8.66	8.53	Q-BCRGR, P-COOKIE
810847		K79-5202	SWS	58.5	3.2	1050	1068	3	8.47	8.44	Q-BCRGR, P-COOKIE
810848		K79-5460	SWS	56.7	3.6	970	1012	3	9.16	9.09	
810849		K79-5549	SWS	58.4	4.1	980	998	2	8.94	8.90	
810850		K79-5650	SWS	60.0	5.3	1000	976	2	8.55	8.59	P-COOKIE
810851		K79-5651	SWS	61.2	4.7	1018	1024	1			
810852		K79-5665	SWS	60.4	5.3	1010	992	2	8.50	8.53	P-COOKIE, FYIELD
810853		K79-5656	SWS	61.0	5.4	1045	1015	2	8.35	8.40	P-COOKIE, FYIELD
810854		K79-5659	SWS	61.2	5.3	1110	1056	2	8.46	8.56	P-COOKIE, FYIELD
810855		K79-5660	SWS	60.5	4.8	1095	1065	2	8.39	8.44	P-COOKIE, FYIELD
810856		K79-5663	SWS	60.5	5.1	1045	1015	2	8.57	8.63	P-COOKIE, FYIELD
810857		K79-5666	SWS	60.4	5.0	1065	1053	2	8.50	8.52	P-COOKIE, FYIELD
810858		K79-5669	SWS	60.3	4.8	985	967	5	8.54	8.57	P-COOKIE, FYIELD
810859		K79-5750	SWS	62.2	5.6	1065	1065	2	8.57	8.57	P-COOKIE, FYIELD

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.

3/ Absorption at 14% Moisture Corrected to 12% Protein. 6/ Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 12% Protein.

COMMENTS: Most of these selections had poor milling characteristics. Those that had promise in both bread and pastry baking are noted with footnotes. There are some excellent bread baking wheats among them.



LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS
1/ 2/ 3/											
810883	URQUIE	C1017413	SWS	63.6	75.2	0.48	86.1	9.3	55.1	1H	54.6
810884	WAMPUM	C1017691	HRS	64.0	74.0	0.43	87.1	11.7	60.4	3H	64.3
810885	WAVERLY	C1017911	SWS	62.8	75.1	0.49	85.6	9.8	55.9	2M	55.9
810886		K79-5085	SWS	61.6	72.6	0.48	82.8	10.2	56.3	4M	58.7
810887		6/K79-5089	SWS	61.2	72.4	0.47	83.2	9.6	57.8	4M	59.6
810888		K79-5090	SWS	61.6	72.4	0.48	82.6	10.3	57.1	4M	59.6
810889		K79-5091	SWS	61.6	72.3	0.48	82.9	10.3	57.2	4M	59.7
810890		K79-5092	SWS	62.4	73.0	0.48	83.3	10.1	55.9	4M	58.5
810891		K79-5094	SWS	62.0	73.7	0.47	84.7	10.4	56.0	4M	58.6
810892		K79-5095	SWS	61.6	73.3	0.47	84.7	10.3	55.6	3M	58.1
810893		6/K79-5096	SWS	61.6	73.2	0.47	84.5	10.2	56.7	4M	59.1
810894		K79-5097	SWS	61.2	72.9	0.47	84.2	9.7	57.7	3M	58.1
810895		K79-5147	SWS	63.6	73.5	0.50	82.9	10.2	57.2	3M	57.6
810896		K79-5202	SWS	64.8	72.3	0.51	80.9	10.3	56.1	2M	56.6
810897		K79-5460	SWS	61.2	73.0	0.49	82.8	9.3	55.7	3M	54.2
810898		6/K79-5549	SWS	60.4	70.9	0.50	79.7	10.4	55.0	4M	56.6
810899		K79-5650	SWS	61.6	73.0	0.49	83.3	11.0	57.3	4M	58.5
810900		6/K79-5651	SWS	62.0	73.0	0.48	83.2	10.7	57.7	4M	59.6
810901		K79-5655	SWS	62.0	73.1	0.49	83.0	10.9	57.5	4M	59.6
810902		K79-5656	SWS	62.0	72.7	0.49	82.5	10.9	57.5	4M	59.6
810903		K79-5659	SWS	62.0	73.0	0.48	83.2	11.1	56.3	4M	59.6
810904		K79-5660	SWS	62.4	73.5	0.50	83.1	10.7	56.1	3M	58.0
810905		K79-5663	SWS	62.0	72.8	0.48	83.1	10.6	56.3	3M	58.1
810906		K79-5666	SWS	61.2	72.2	0.48	82.5	10.7	57.2	4M	60.1
810907		K79-5669	SWS	61.6	72.0	0.48	82.1	11.0	55.4	4M	58.6
810908		K79-5986	SWS	58.8	71.1	0.48	80.8	9.6	56.3	3M	58.1



LABNUM	VARIETY	IDNO	CLASS	BABSC	MTIME	LVOL	LVOLC	BCRGR	CODI	CODIC	RMKS
<u>3/</u> <u>4/</u>											
810883	URQUIE	C1017413	SWS	55.3	1.3	810	852	8	9.20	9.12	
810884	WAMPUM	C1017691	HRS	62.6	3.0	1040	935	2	8.56	8.70	
810885	WAVERLY	C1017911	SWS	56.1	1.0	875	887	7	9.02	9.00	
810886		K79-5085	SWS	58.5	3.7	925	913	3	9.02	9.05	<i>Q-LVOL, P-FYELD</i>
810887		K79-5089	SWS	60.0	4.3	950	974	2	8.89	8.84	
810888		K79-5090	SWS	59.3	3.4	965	947	2	8.65	8.68	<i>Q-CODI</i>
810889		K79-5091	SWS	59.4	3.6	960	942	2	8.77	8.81	<i>P-CODI</i>
810890		K79-5092	SWS	58.4	4.6	905	899	6	8.79	8.80	<i>P-CODI, BCRGR</i>
810891		K79-5094	SWS	58.2	4.4	935	911	6	8.84	8.88	<i>P-BCRGR</i>
810892		K79-5095	SWS	57.8	3.4	938	920	4	8.76	8.80	<i>P-BCRGR</i>
810893		K79-5096	SWS	58.9	5.5	900	888	2	8.86	8.88	
810894		K79-5097	SWS	58.4	3.2	915	933	6	9.05	9.02	<i>P-BCRGR</i>
810895		K79-5147	SWS	57.4	3.0	955	943	5	9.16	9.18	<i>P-BCRGR</i>
810896		K79-5202	SWS	56.3	1.0	905	887	6	8.95	8.98	<i>P-BCRGR</i>
810897		K79-5460	SWS	54.9	2.9	910	952	6	9.19	9.11	<i>P-BCRGR</i>
810898		K79-5549	SWS	56.2	3.3	900	876	2	8.95	8.99	
810899		K79-5650	SWS	57.5	3.7	900	840	3	8.65	8.76	<i>P-CODI</i>
810900		K79-5651	SWS	58.9	3.2	865	823	3	8.92	9.00	
810901		K79-5655	SWS	58.7	3.9	900	846	5	8.64	8.74	<i>P-BCRGR</i>
810902		K79-5656	SWS	58.7	3.3	905	851	6	8.79	8.89	<i>P-BCRGR</i>
810903		K79-5659	SWS	58.5	3.2	860	794	6	8.82	8.95	<i>P-BCRGR</i>
810904		K79-5660	SWS	57.3	3.0	865	823	5	8.67	8.75	<i>P-BCRGR</i>
810905		K79-5663	SWS	57.5	3.4	855	819	5	8.79	8.85	<i>P-BCRGR</i>
810906		K79-5666	SWS	59.4	3.8	875	833	6	8.81	8.89	<i>P-BCRGR</i>
810907		K79-5669	SWS	57.6	4.0	860	800	5	8.75	8.86	<i>P-BCRGR</i>
810908		K79-5986	SWS	58.5	3.2	840	864	6	8.91	8.87	<i>P-BCRGR</i>

1/ Observed Values Corrected to 14% Moisture Basis.      5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 10% Protein.      6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 10% Protein.

COMMENTS: Flour yields were below the check varieties. See Remarks for other deficiencies.



NURSCO 27

ROYAL SLOPE, WA

C. F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS
1/ <u>  </u> 3/ <u>  </u>											
810933	URQUIE	C1017413	SWS	63.2	74.3	0.49	84.5	9.2	53.8	2M	53.2
810934	WAMPUM	C1017691	HRS	64.4	75.3	0.48	85.7	11.7	59.2	2H	63.1
810935	DIRKWIN	C1017745	SWS	61.2	74.2	0.55	80.7	9.6	53.2	1M	53.0
810936		<u>6/K80-5223</u>	SWS	61.2	74.3	0.45	86.8	10.4	56.7	4M	59.3
810937		<u>K80-5241</u>	HWS	65.6	77.1	0.45	92.5	11.2	60.5	4H	64.9
810938		K80-5242	HWS	63.2	71.5	0.49	81.5	10.1	61.8	7H	66.1
810939		<u>K80-5276</u>	SWS	62.0	74.5	0.48	85.2	10.3	57.2	4M	58.7
810940		<u>6/K80-5303</u>	SWS	61.2	73.0	0.51	81.8	9.6	53.7	3M	54.5
810941		<u>6/K80-5355</u>	SWS	63.2	71.6	0.49	80.8	10.3	57.0	4M	59.5
810942		<u>6/K80-5392</u>	SWS	64.4	74.4	0.45	87.1	9.8	54.2	3M	56.2
810943		<u>*5/K80-5424</u>	SWS	63.2	75.0	0.44	88.6	10.3	58.5	4M	60.0
810944		<u>K80-5435</u>	SWS	62.8	73.1	0.49	83.0	9.4	56.0	5M	57.6
810945		<u>6/K80-5436</u>	SWS	62.8	74.1	0.48	84.7	9.0	54.1	2M	54.3
810946		<u>6/K80-5441</u>	SWS	62.4	71.5	0.48	81.6	9.2	56.1	3M	54.5
810947		<u>K80-5442</u>	SWS	62.0	72.7	0.48	83.1	9.3	55.6	3L	57.1
810948		K80-5443	SWS	64.0	74.7	0.48	85.5	9.0	56.3	3L	57.5
810949		<u>K80-5444</u>	SWS	63.6	73.4	0.49	83.6	9.4	55.7	3L	57.3
810950		<u>K80-5457</u>	SWS	64.0	73.2	0.47	84.6	9.6	56.2	5M	58.0
810951		<u>K80-5564</u>	SWS	63.2	74.5	0.49	85.0	9.6	54.7	3L	56.5
810952		<u>K80-5600</u>	HWS	58.4	70.9	0.50	80.4	10.7	56.8	4H	59.7
810953		<u>5/K80-5604</u>	SWS	62.8	74.0	0.44	87.3	11.2	57.4	3M	58.8
810954		<u>6/K80-5701</u>	SWS	62.0	73.7	0.45	86.1	10.3	57.0	3M	56.5
810955		<u>6/K80-5705</u>	SWS	62.4	73.1	0.51	81.9	11.4	56.1	3M	59.2
810956		<u>6/K80-5709</u>	SWS	58.8	72.4	0.54	78.9	10.1	56.7	4M	57.0



NURSCO 27

ROYAL SLOPE, WA

C. F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	BABSC	MTIME	LVOL	LVOLC	BCRGR	CODI	CODIC	RMKS
			3/				4/			4/	
810933	URQUIE	C1017413	SWS	54.0	1.2	775	823	8	9.20	9.11	
810934	WAMPUM	C1017691	HRS	61.4	2.5	1050	945	3	8.47	8.61	
810935	DIRKWIN	C1017745	SWS	53.4	1.0	740	764	8	8.82	8.78	
810936		K80-5223	SWS	58.9	3.4	905	881	3	8.90	8.94 Q-LVOL	
810937		K80-5241	HWS	63.7	3.6	985	911	2	8.50	8.60 P-CODI	
810938		K80-5242	HWS	66.0	10.4	725	719	8	8.06	8.07 P-LVOL, CODI	
810939		K80-5276	SWS	58.4	3.4	900	882	3	9.10	9.13 P-LVOL	
810940		K80-5303	SWS	54.9	2.8	830	854	3	9.07	9.03 P-LVOL	
810941		K80-5355	SWS	59.2	3.8	965	947	2	9.06	9.10	
810942		K80-5392	SWS	56.4	3.4	908	920	4	9.22	9.20 Q-LVOL, BCRGR	
810943		K80-5424	SWS	59.7	3.4	920	902	2	9.10	9.13	
810944		K80-5432	SWS	58.2	3.7	805	841	6	8.91	8.85 P-LVOL, BCRGR	
810945		K80-5436	SWS	55.3	2.5	810	870	5	9.15	9.04 P-LVOL, BCRGR	
810946		K80-5441	SWS	55.3	3.4	853	901	4	9.15	9.06	
810947		K80-5442	SWS	57.8	3.3	805	847	6	9.21	9.14 P-LVOL, BCRGR	
810948		K80-5443	SWS	58.5	4.0	810	870	6	8.92	8.81 P-LVOL, BCRGR	
810949		K80-5444	SWS	57.9	4.3	810	846	6	8.89	8.82 P-LVOL, BCRGR	
810950		K80-5457	SWS	58.4	4.7	835	859	6	9.04	8.99 P-LVOL, BCRGR	
810951		K80-5564	SWS	56.9	3.5	810	834	6	9.20	9.16 P-LVOL, BCRGR	
810952		K80-5600	HWS	59.0	4.4	980	937	3	8.42	8.48 P-CODI	
810953		K80-5604	SWS	57.6	3.3	1065	993	2	8.94	9.07	
810954		K80-5701	SWS	56.2	2.2	923	905	4	9.06	9.10 Q-BCRGR	
810955		K80-5705	SWS	57.8	3.2	995	911	4	8.89	9.04 Q-BCRGR	
810956		K80-5709	SWS	56.9	3.8	950	944	3	9.12	9.14 Q-BCRGR	

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 10% Protein.  
4/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: See Remarks column for deficiencies for dual purpose quality.  
\* This selection is most outstanding in overall quality characteristics.



C. F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	M TYPE
810957	WARED	C1015926	HRS	61.2	72.8	0.41	87.2	12.8	64.2	3H
810958	BORAH	C1017267	HRS	60.8	73.0	0.36	89.9	12.9	63.6	2H
810959	WAMPUM	C1017691	HRS	61.6	72.7	0.41	86.8	11.7	65.0	3H
810960	MCKAY	C1017903	HRS	60.4	72.2	0.38	88.1	12.1	64.7	5H
810961		<u>6/</u> WA6307	HRS	60.8	72.1	0.38	87.7	11.5	63.9	4H
810962		<u>6/</u> WA6510	HRS	62.0	72.7	0.40	87.6	11.0	63.2	4H
810963		<u>6/</u> WA6750	HRS	60.4	71.9	0.40	86.3	11.2	64.7	4H
810964		<u>6/</u> WA6758	HRS	60.4	72.5	0.40	87.2	11.9	63.9	2H
810965		<u>6/</u> WA6823	HRS	60.4	72.4	0.38	88.2	13.3	66.4	4H
810966		<u>6/</u> WA6824	HRS	60.8	74.4	0.40	89.0	13.1	65.9	5H
810967		<u>6/</u> WA6825	HRS	60.4	72.7	0.39	87.7	13.9	65.3	3H
810968		<u>6/</u> WA6865	HRS	59.6	72.2	0.41	86.3	14.4	65.0	2H
810971	NK 761011	<u>6/</u> NK751	HRS	62.8	73.8	0.39	88.9	12.4	65.1	4H
810972	ERA/JUSTIN	<u>6/</u> NK752631	HRS	60.8	72.1	0.43	85.1	12.2	63.8	4H
810973	WALDRON/ERA	<u>6/</u> NK752634	HRS	60.0	73.7	0.43	87.0	13.2	66.0	4H
810974	PRO BRAND 711	<u>5/</u> NK755511	HRS	62.0	74.0	0.41	88.1	13.1	67.1	3H



LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOL 4/	BCRGR	RMKS
810957	WARED	C1015926	HRS	65.2	65.4	3.3	1160	1172		2
810958	BORAH	C1017267	HRS	65.7	65.8	2.7	1145	1151		2
810959	WAMPUM	C1017691	HRS	64.4	65.7	3.2	1100	1181		2
810960	MCKAY	C1017903	HRS	66.0	66.9	4.3	1140	1196		2
810961		WA6307	HRS	65.6	67.1	4.5	1030	1123		2
810962		WA6510	HRS	64.4	66.4	4.1	1000	1124		2
810963		WA6750	HRS	66.1	67.9	4.3	1060	1172		2
810964		WA6758	HRS	63.0	64.1	2.4	1080	1148		2
810965		WA6823	HRS	68.9	68.6	3.4	1120	1101		2
810966		WA6824	HRS	68.2	68.1	4.6	1140	1134		2
810967		WA6825	HRS	67.4	66.5	2.9	1210	1154		2
810968		WA6865	HRS	68.6	67.2	3.1	1170	1083		2
810971	NK 761011	NK751	HRS	66.2	66.8	3.4	1115	1152		2
810972	ERA/JUSTIN	NK752631	HRS	66.2	67.0	4.3	990	1040		2 Q-LVOL
810973	WALDRON/ERA	NK752634	HRS	68.9	68.7	4.5	1140	1128		2
810974	PRO BRAND 711	NK755511	HRS	68.4	68.3	4.2	1140	1134		1

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
2/ Absorption at 14% Moisture Corrected to 13% Protein. 6/ Promising Overall Quality Characteristics.  
3/ 4/ Observed Values Corrected to 13% Protein.

COMMENTS: This group of HRS is very good in overall quality. Their milling properties are equal to or better than the check varieties. Baking properties of all except NK752631 are acceptable with slight differences after adjusting for protein. Protein contents were significantly different, ranging from 11.0-14.4% in the flour.



LABNUM	VARIETY	1DNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	RMKS
				1/			1/		1/	3/		4/	
811022	MARFED	C1011919	SWS	64.4	71.2	0.42	85.3	10.0	57.3	9.32	9.42	3M	
811023	TWIN	C1014588	SWS	61.2	71.0	0.49	80.2	9.2	51.7	9.17	9.20	2M	
811024	FIELDER	C1017268	SWS	59.2	70.2	0.44	82.6	8.9	54.6	9.24	9.23	2M	
811025	EL GAUCHO/SON64/FC/NP6	C1017347	SWS	62.8	71.0	0.43	83.8	10.9	56.2	8.76	8.97	6M	
811026	URQUIE	C1017413	SWS	63.2	71.9	0.45	84.2	9.0	56.3	9.16	9.16	3M	
811027	FIELDWIN	C1017425	SWS	58.4	71.0	0.41	85.4	10.2	55.9	8.87	9.01	2M	
811028	DIRKWIN	C1017745	SWS	60.4	71.3	0.47	82.0	9.0	53.4	9.05	9.05	2M	
811029	WALLADAY	C1017759	SWS	60.8	69.8	0.45	81.0	8.4	54.9	8.87	8.81	3L	
811030	STERLING	C1017859	SWS	61.6	71.6	0.43	85.2	8.3	55.6	9.04	8.96	3L	
811031	OWENS	C1017904	SWS	64.0	71.6	0.44	84.4	9.1	55.3	9.05	9.06	2L	
811032	Waverly	WA6402	SWS	62.4	73.5	0.45	86.0	9.6	57.9	8.89	8.95	3M	
811041	LIFN*2/N1220/WA6150	WA6832	SWS	62.8	70.5	0.47	80.9	10.2	57.3	9.15	9.28	2M	
811042	ID65/POTAM 70	5/WA6833	SWS	63.6	71.8	0.41	86.7	10.2	56.1	9.31	9.44	3M	P-MSCOR

1/ Observed Values Corrected to 14% Moisture Basis.

3/ Absorption at 14% Moisture Corrected to 9% Protein.

4/ Observed Values Corrected to 9% Protein.

COMMENTS: None.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.



NURSCO 32	PORTLAND, OR
LABNUM	VARIETY

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	BABS	BABSC	MTIME
811043 WORLD SEEDS 13				<u>1/</u>			<u>1/</u>	<u>3/</u>					<u>3/</u>

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 9% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 9% Protein.

COMMENTS: In every respect WS #13 is poor in end-use quality characteristics. Commercial production should be discouraged to limit the jeopardy it imposes in the market place on other wheats.



NURSCO 33

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
				1/		1/		1/	3/	
811044	KHARKOF	C1001442	HRW	60.8	67.1	0.40	76.4	11.2	60.5	2H
811045	WANSER	C1013844	HRW	61.6	68.8	0.38	80.2	11.3	61.7	3H
811046	WESTON	C1017727	HRW	62.5	67.8	0.39	78.4	12.1	63.6	2H
811047		ID51021	HRW	61.4	66.6	0.41	74.9	12.7	64.3	2H
811048		ID51022	SRW	60.8	68.7	0.41	76.6	13.2	60.1	2H
811049		6/1D00178	HRW	60.5	66.9	0.40	76.6	11.9	61.0	4H
811050		6/0R0792	SRW	61.3	68.4	0.41	77.1	10.7	61.5	4M
811051		6/MT77002	HRW	62.4	72.0	0.40	84.5	11.3	63.4	4H
811052		6/MT77066	HRW	61.4	69.5	0.42	79.9	10.7	61.9	2H
811053		6/MT77077	HRW	61.0	69.3	0.40	80.6	11.6	60.7	2H
811054		0R7921	SRW	62.1	67.3	0.38	78.2	11.0	59.4	1H
811055		0R7925	HRW	59.6	68.1	0.39	79.1	9.5	60.1	7M
811056		0R7930	SRW	60.2	70.4	0.39	80.7	9.7	58.2	3L
811057		5/1D0215	HRW	59.9	70.4	0.41	82.3	11.6	64.4	5H
811058		6/1D0216	HRW	62.0	71.7	0.42	83.7	11.9	62.9	2H
811059		5/1D0217	HRW	63.1	72.7	0.41	85.4	11.6	64.4	4H
811060		1D0218	HRW	60.8	70.9	0.38	83.9	11.6	64.9	4H
811061		1D0219	HRW	62.3	69.3	0.41	79.4	11.8	64.5	4H
811062		1D0220	HRW	62.3	69.2	0.40	80.0	10.7	62.4	3H
811063		5/0T119416	HRW	60.4	70.8	0.41	82.1	11.7	63.3	3H
811064		6/0T119402	HRW	59.3	69.0	0.41	79.5	11.8	63.0	3H
811065		6/UT122275	HRW	60.1	67.8	0.41	78.2	11.7	62.7	4H
811066		6/1D3518	SRW	57.7	71.4	0.43	80.4	11.4	61.2	4H
811067		WA6815	HRW	61.8	71.9	0.41	84.3	11.4	62.1	2H
811068		WA6816	HRW	59.4	70.8	0.41	82.6	10.6	63.3	2H
811069		6/WA6817	HRW	59.5	69.8	0.41	81.0	10.2	62.3	6M
811070		6/WA6818	HRW	61.4	69.3	0.40	80.6	10.7	62.7	4M



NURSCO 33

STLWTR, POM, ABRD, LND

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	Remarks
				3/			4/			
811044	KHARKOF	C1001442	HRW	62.9	62.7	2.4	1010	999	3	
811045	WANSER	C1013844	HRW	64.2	63.9	3.2	985	964	2	
811046	WESTON	C1017727	HRW	66.9	65.8	2.3	1105	1037	2	P-MSCOR
811047		ID51021	HRW	68.2	66.5	2.2	1040	935	2	P-MSCOR
811048		ID51022	SRW	63.0	60.8	2.1	1205	1073	2	
811049		ID00178	HRW	65.1	64.2	4.0	988	932	3	P-MSCOR&LVOL
811050		OR0792	SRW	62.4	62.7	3.0	993	1011	2	Q-MILLING
811051		MT77002	HRW	65.9	65.6	3.3	890	871	3	P-LVOL&BCRGR
811052		MT77066	HRW	63.8	64.1	2.7	1050	1069	4	Q-BCRGR
811053		MT77077	HRW	63.5	62.9	2.1	1090	1053	2	
811054		OR7921	SRW	60.6	60.6	1.7	880	880	8	P-LVOL&BCRGR
811055		OR7925	HRW	63.3	64.8	4.5	805	898	7	P-LVOL&BCRGR
811056		OR7930	SRW	59.1	60.4	2.9	875	953	6	P-LVOL&BCRGR
811057		ID0215	HRW	66.7	66.1	4.6	1060	1023	2	
811058		ID0216	HRW	66.0	65.1	3.1	1000	944	2	
811059		ID0217	HRW	67.2	66.6	3.6	1000	963	2	P-LVOL&BCRGR
811060		ID0218	HRW	68.2	67.6	3.8	915	878	3	Q-MILLING&LVOL
811061		ID0219	HRW	67.5	66.7	3.2	1005	955	2	Q-MILLING&LVOL
811062		ID0220	HRW	65.3	65.6	3.6	943	962	2	
811063		UT119416	HRW	66.2	65.5	2.8	1050	1007	2	
811064		UT119402	HRW	67.0	66.2	3.1	1050	1000	2	Q-MILLING
811065		UT122275	HRW	68.1	67.4	5.0	1025	982	2	Q-MILLING
811066		ID3518	SRW	61.6	61.2	4.8	1000	976	1	Q-(SOFT)
811067		WA6815	HRW	63.7	63.3	2.7	960	935	4	Q-LVOL&BCRGR
811068		WA6816	HRW	65.1	65.5	2.6	950	975	6	P-BCRGR
811069		WA6817	HRW	65.2	66.0	3.5	855	905	4	P-LVOL&BCRGR
811070		WA6818	HRW	65.1	65.4	3.7	938	957	2	

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 11% Protein.

3/ Observed Values Corrected to 11% Protein.

4/ Observed Values Corrected to 11% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: Equal amounts of seed from Stillwater, Mt., Pomeroy and Lind, WA., and Aberdeen ID were composited and used in the evaluation. Selection was based on location and protein content. Milling properties of the composited wheats were below normal expected levels of flour yield. Comparison to the check varieties Wanser and Weston were the basis for judgement. Five of the entries (ID51022, OR792, OR7921, OR7930, and ID3518) were soft endosperm types and would probably be graded as Soft Red Winters. Breeders of the selections without footnotes of promising overall quality should give serious thought to the implication of these selections as commercial varieties.



KALSP, TWNFLLS, RLSLP

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
811071	MCKAY	C1017903	HRS	61.7	71.7	0.41	83.4	10.5	62.5	3H
811072	BANNOCK/738-274-1	UT541774	HRS	59.3	68.7	0.39	80.1	10.5	59.3	6M
811073	BANNOCK/738-274-1	UT541777	HRS	58.7	68.7	0.41	79.3	9.6	59.3	6M
811074	BORAH/3/11-60-101//TZPP/AN64	1D0134	HRS	60.8	69.7	0.42	79.9	12.1	65.6	5H
811075	BORAH/1D0033	1D0162	HRS	59.8	69.6	0.44	78.9	11.3	62.9	5H
811076	BLUEBIRD SIB/ANZA	UC0353	HRS	59.9	71.8	0.45	81.8	10.0	61.0	3M
811077	C113232/RAMONA 50//ANZA	UC0355	HRS	58.0	67.7	0.45	75.6	11.0	60.0	2H
811078	C117689/WARED, K7-4102-118	WA6823	HRS	61.0	70.5	0.42	81.6	11.9	62.4	4H
811079	BORAH/C117689, K7-4127-339	5//WA6824	HRS	61.2	71.0	0.42	80.7	11.9	64.3	5H
811080	BORAH/C117689, K7-4127-474	6//WA6825	HRS	61.0	71.4	0.42	82.2	12.0	65.2	3H
811081	UT W498-259/PROSPUR	UT0093	HRS	56.4	69.0	0.45	77.4	11.0	62.9	6H
811082	UT W498-259/PROSPUR	UT0125	HRS	50.3	63.5	0.55	64.3	11.0	63.1	5H
811083	UT W498-259/PROSPUR	UT0326	HRS	51.2	64.1	0.54	65.6	10.6	63.3	5H
811084	UT W498-259/S.D.871-37	UT1543	HRS	60.3	68.4	0.48	75.3	11.0	64.0	5H
811085	MRN/TBRR6/3/TZPP/AN3//B61-136	5//1D0170	HRS	61.6	71.3	0.40	83.5	11.3	62.9	5H



LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVLCL	BCRGR REMARKS
<u>4/</u>									
811071	MCKAY	C1017903	HRS	63.2	63.7	3.3	1035	1066	2
811072	BANNOCK/738-274-1	UT541774	HRS	61.0	61.5	3.3	1035	1066	3 P-FYIELD&MSCOR
811073	BANNOCK/738-274-1	UT541777	HRS	60.1	61.5	3.9	940	1027	2 P-FYIELD&MSCOR
811074	BORAH/3/1-60-101//TZPP/SN64	ID0134	HRS	68.9	67.8	4.8	1055	987	2 P-FYIELD&MSCOR
811075	BORAH/1D0033	ID0162	HRS	66.4	66.1	4.5	1075	1056	2 P-FYIELD&MSCOR
811076	BLUEBIRD SIB/ANZA	UC0353	HRS	60.2	61.2	1.7	1000	1062	6 P-MTIME&BCRGR
811077	CI13232/RAMONA 50//ANZA	UC0355	HRS	62.2	62.2	2.2	985	985	4 P-MILLING&LVOL
811078	CI17689/WARED, K7-4102-118	WA6823	HRS	65.5	64.6	2.5	1090	1034	4 Q-BCRGR
811079	BORAH/C17689, K7-4127-339	WA6824	HRS	67.4	66.5	4.3	1080	1024	1
811080	BORAH/C17689, K7-4127-474	WA6825	HRS	66.9	65.9	2.3	1100	1038	4 Q-BCRGR
811081	UT W498-259/PROSPUR	UT0093	HRS	65.1	65.1	6.4	1125	1125	2 P-MILLING
811082	UT W498-259/PROSPUR	UT0125	HRS	66.3	66.3	5.6	1155	1155	2 P-MILLING
811083	UT W498-259/PROSPUR	UT0326	HRS	66.6	67.0	5.8	1120	1145	2 P-MILLING
811084	UT W498-259/S.D.871-37	UT1543	HRS	66.2	66.2	4.2	1020	1020	2 P-MILLING
811085	MRN//TBR66/3/TZPP/AN3//B61-136	ID0170	HRS	65.4	65.1	3.9	1025	1006	2

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 11% Protein.  
4/ Observed Values Corrected to 11% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: A composite of equal amounts of seed from nurseries grown at Kalispell, Mt., Twin Falls, ID., and Royal Slope, WA., was made and used in the study. Location of the selections was made on protein basis. Most other locations were low in protein or had missing entries. Milling quality as determined by the results for McKay were slightly below normal. Most of the entry selections not judged as promising were poor in milling. Generally, the baking properties were good across all entries.



NURSCO 35

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
811086	FEDERATION	C1004734	SWS	60.3	70.0	0.43	77.7	9.0	53.1	2M
811087	OWENS	C1017904	SWS	62.3	69.3	0.42	76.3	9.2	52.6	3M
811088	POTAM	6/ WA6826	SWS	61.9	73.5	0.43	83.1	9.5	51.9	3M
811089	POTAM	70/WA6021/K7-905245	SWS	59.9	71.9	0.43	81.5	9.7	52.7	4M
811090	POTAM	70/WA6021/K7-905251	SWS	61.9	72.3	0.47	79.1	9.5	52.9	2M
811091	ID65/POTAM 70, K7-905333	6/ WA6829	SWS	62.9	72.6	0.46	80.5	9.4	53.8	4M
811092	POTAM 70/WA6021, K7-905208	WA6830	SWS	61.2	70.7	0.45	78.3	9.4	53.3	3M
811093	POTAM 70/WA6021, K7-905209	WA6831	SWS	60.5	70.6	0.45	78.3	9.1	53.6	3M
811094	LIFN*2/N1220//WA6150, K7-905575	WA6832	SWS	59.0	70.3	0.52	72.9	10.6	55.3	3M
811095	ID65/POTAM 70, K7-905326	WA6833	SWS	61.7	69.2	0.43	75.8	10.2	56.8	3M
811096	ID0053/A6596S-A-21-1	6/ ID0183	SWS	64.0	72.7	0.45	80.6	10.4	56.4	3M
811097	A7243S-A-3-1	ID0187	SWS	61.2	70.6	0.44	78.4	9.4	54.8	5M
811098	WAVERLY	C1017911	SWS	60.4	71.0	0.45	78.9	10.2	55.5	3M
811099	N7000315/ID65	WA6753	SWS	59.4	70.0	0.51	73.8	10.1	55.1	2M
811100	HYSLOP/FIELDER	ID0172	SWS	59.6	70.5	0.46	77.2	9.7	53.7	2M
811101	ID0046/7/1D0045/6/2*A6596S-A-21-1/5/...* FIELDER/5/BB 1/4/7*SFL/3/AS/FR//....	6/ D0190	SWS	61.1	68.9	0.43	76.2	9.6	55.2	5M
811102	BB1 1/2*FIELDER	6/ D0224	SWS	60.3	70.1	0.42	78.8	9.1	54.1	2M
811103	BB1 1/2*FIELDER	1D0226	SWS	60.5	70.9	0.42	79.5	8.9	54.9	3M
811104	ID0118/OASIS/3/5*TWIN/1D0021//... FBR/5/BB1 1/4/7*SFL/3/AS/FR//....	1D0232	SWS	59.3	69.7	0.46	75.6	9.7	52.4	2M
811105	FBR/5/BB1 1/4/7*SFL/3/AS/FR//....	1D0233	SWS	61.1	70.2	0.44	78.3	8.9	55.8	3M
811106	FBR/5/BB1 1/4/7*SFL/3/AS/FR//... FBR/5/BB1 1/4/7*SFL/3/AS/FR//... FBR/5/BB1 1/4/7*SFL/3/AS/FR//....	6/ D0234	SWS	61.0	70.8	0.44	78.6	8.8	55.7	3M
811107	FBR/5/BB1 1/4/7*SFL/3/AS/FR//... FBR/5/BB1 1/4/7*SFL/3/AS/FR//....	6/ D0235	SWS	60.4	70.3	0.43	78.7	9.2	55.5	2M
811108	FBR/5/BB1 1/4/7*SFL/3/AS/FR//....	6/ D0236	SWS	62.3	70.8	0.43	80.0	8.5	56.1	2M



LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC 4/	CAVOL	SCS0R	WTIN	NOSCO	RMS
811086	FEDERATION	C1004734	SWS	8.69	8.69	1320	70.2	368	72	
811087	OWENS	C1017904	SWS	8.97	9.00	1340	70.5	376	74	
811088	POTAM 70/WA6021, K7-905243	WA6826	SWS	9.02	9.08	1355	72.0	365	75	Q-SCS0R
811089	POTAM 70/WA6021/K7-905245	WA6827	SWS	8.93	9.01	1390	74.0	359	67	P-NOSCO
811090	POTAM 70/WA6021, K7-905251	WA6828	SWS	8.81	8.87	1390	74.5	374	70	P-NOSCO
811091	ID65/POTAM 70, K7-905333	WA6829	SWS	8.79	8.83	1420	74.5	378	75	Q-MILL, CODE & NOSCO
811092	POTAM 70/WA6021, K7-905208	WA6830	SWS	8.71	8.76	1390	74.0	378	71	Q-MILL & NOSCO
811093	POTAM 70/WA6021, K7-905209	WA6831	SWS	8.94	8.95	1395	72.0	378	71	P-MILLING & NOSCO
811094	LIFN*2/N1220//WA6150, K7-905575	WA6832	SWS	8.77	8.95	1415	77.0	372	68	P-MILLING & NOSCO
811095	ID65/POTAM 70, K7-905326	WA6833	SWS	8.90	9.03	1405	75.2	378	70	Q-MILLING & NOSCO
811096	ID0053/A6596S-A-21-1	ID0183	SWS	8.79	8.95	1330	71.3	370	72	Q-NOSCO
811097	A7243S-A-3-1	ID0187	SWS	8.98	9.03	1375	71.8	361	68	Q-MILL & P-NOSCO
811098	WAVERLY	C1017911	SWS	8.59	8.72	1360	70.0	361	72	
811099	N7000315/ID65	WA6753	SWS	8.45	8.57	1365	64.0	370	71P-MIL CODI SC0R/NO.	
811100	HYSL0P/FIELDER	ID0172	SWS	8.79	8.87	1345	70.5	379	69	Q-MILL & P-NOSCO
811101	ID0046/7/1D0045/6/2*A6596S-A-21-1/5/....	ID0190	SWS	8.99	9.06	1480	78.3	365	73	Q-P-MILLING
811102	FIELDER/5/BB 11/4/7*SF1/3/AS/FR//....	ID0224	SWS	8.84	8.85	1455	81.5	389	74	
811103	BB11/2*FIELDER	ID0226	SWS	8.76	8.75	1350	70.5	383	73	P-SCS0R
811104	ID0118/OASIS/3/5*TWIN/1D0021//....	ID0232	SWS	8.84	8.92	1350	69.3	375	73	P-MILL & SCS0R
811105	FBR/5/BB11/4/7*SFL/3/AS/FR//....	ID0233	SWS	8.85	8.84	1350	67.8	380	76	P-SCS0R
811106	FBR/5/BB11/4/7*SFL/3/AS/FR//....	ID0234	SWS	9.14	9.12	1325	73.3	373	79	Q-NOSCO
811107	FBR/5/BB11/4/7*SFL/3/AS/FR//....	ID0235	SWS	8.85	8.87	1400	75.3	381	72	
811108	FBR/5/BB11/4/7*SFL/3/AS/FR//....	ID0236	SWS	8.76	8.71	1335	70.5	376	76	Q-SCS0R

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
2/ Absorption at 14% Moisture Corrected to 9% Protein. 6/ Promising Overall Quality Characteristics.  
3/ Observed Values Corrected to 9% Protein.

COMMENTS: Equal amounts of seed from nurseries grown at Kalispell, MT., Twin Falls, ID., and Royal Slope, WA., were used to prepare a composite for the milling baking trials. Protein levels were good for soft wheat. Many of the selections were poor in milling, Japanese sponge cake, and Udon noodle quality. A few appear promising and are noted with footnotes. See Remarks for deficiencies.

\*... Indicates incomplete pedigree.



NURSCO 36 DAVIS, CA C. O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	M TYPE
						1/		1/	3/	
811109	INIA/CIANO//CALISAS/3/ANZA	5/ E4	HRS	62.4	74.1	0.40	89.0	10.6	58.4	3H
811110	ANZA/TOB 66	E6	HRS	64.0	71.6	0.39	87.0	9.4	56.8	4M
811111	ANZA/JUSTIN	6/ E14	HRS	63.6	73.7	0.39	89.1	11.2	60.1	3H
811112	CALIDAD*2/D63011//JUSTIN	E22	HRS	62.8	71.5	0.41	85.8	11.4	62.3	6H
811113	BB'S'/ANZA	E26	HRS	62.4	73.5	0.41	87.9	9.8	57.0	3M
811114	BB'S'/ANZA	E27	HRS	64.8	72.7	0.38	88.3	9.9	58.6	4M
811115	166/BB'S'/ANZA	E29	HRS	62.8	72.7	0.39	87.8	9.6	53.7	2H
811116	166/ANZA	E30	HRS	62.8	71.1	0.41	85.3	10.0	56.5	2H
811117	ANZA (E31)	C1015284	HRS	62.4	71.3	0.40	85.8	9.3	54.5	3M
811118	SHASTA (E32)	C1013976	HRS	63.2	70.7	0.43	83.5	10.6	55.8	4M
811119	INIA 66 (E33)	C1014195	HRS	65.2	73.4	0.36	90.5	10.9	58.4	5H
811120	UC 353 = YOLO	E34	HRS	62.8	72.6	0.38	88.1	8.7	55.6	2H
811121	YEC 70/ANZA	E37	HRS	62.8	72.1	0.40	87.0	8.9	56.2	7M
811122	D6850/BEZOSTAYA	E39	HRS	61.2	69.2	0.42	82.8	10.0	58.1	7M
811123	ANZA/GAINES//CALIDAD	E42	HWS	62.4	70.7	0.42	84.2	10.2	60.3	5H
811124	RULOFEN/2*SON 64	6/ E34	HRS	63.6	72.6	0.39	88.0	10.9	56.4	6H
811125	1 66*2/JUSTIN	6/ E47	HRS	64.4	74.4	0.37	90.8	10.7	59.3	6H



C.O. QUALESET

DAVIS, CA

NURSCO 36

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
3/										
4/										
811109	INIA/CIANO//CALISAS/3//ANZA	E4	HRS	60.2	59.6	2.6	1033	996	2	P-BCRGR
811110	ANZA/TOB 66	E6	HRS	58.4	59.0	3.5	885	922	6	P-BCRGR
811111	ANZA/JUSTIN	E14	HRS	63.5	62.3	3.2	980	906	2	
811112	CALIDAD*2/D6301//JUSTIN	E22	HRS	69.9	68.5	7.8	998	911	2	
811113	BB'S//ANZA	E26	HRS	59.0	59.2	2.3	930	942	6	P-BCRGR
811114	BB'S//ANZA	E27	HRS	61.7	61.8	2.9	875	881	5	P-BCRGR
811115	166/BB'S//ANZA	E29	HRS	56.3	56.7	2.3	735	760	8	P-LVOL&BCRGR
811116	166/ANZA	E30	HRS	58.7	58.7	2.3	890	890	4	Q-BCRGR
811117	ANZA (E31)	C1015284	HRS	56.0	56.7	2.2	840	883	6	
811118	SHASTA (E32)	C1013976	HRS	59.6	59.0	3.0	905	868	4	
811119	INIA 66 (E33)	C1014195	HRS	61.5	60.6	4.5	1005	949	2	P-BCRGR
811120	UC 353 = YOLO	E34	HRS	56.5	57.8	2.4	910	991	5	P-BCRGR
811121	YEC 70/ANZA	E37	HRS	57.3	58.4	4.4	880	948	5	P-BCRGR
811122	D6850/BEZOSTAYA	E39	HRS	61.8	61.8	4.8	905	905	6	P-BCRGR
811123	ANZA/GAINES//CALIDAD	E42	HWS	62.7	62.5	3.8	1050	1038	3	HARD WHITE
811124	RULOFEN/2*SON 64	E34	HRS	59.5	58.6	5.5	925	869	2	
811125	1 66*2/JUSTIN	E47	HRS	62.2	61.5	5.9	950	907	2	

1/ Observed Values Corrected to 14% Moisture Basis.

3/ Absorption at 14% Moisture Corrected to 10% Protein.

4/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: Note selection E-42 is a hard white wheat. See "REMARKS" for deficiencies (P = poor, Q = questionable).



C. O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH 1/	MSCOR	FPROT 1/	MABSC 3/	MTYPE
811126	ANZA*2/JUSTIN	E1	HRS	60.8	73.2	0.38	88.7	10.4	56.9	3M
811127	ANZA*2/JUSTIN	6/ E2	HRS	61.2	71.3	0.39	86.3	10.3	57.4	3M
811128	ANZA/JUSTIN	5/ E4	HRS	60.4	70.5	0.39	85.5	11.1	58.3	2H
811129	YR'S' (R)/MEXIFAN	5/ E6	HRS	61.2	71.4	0.41	85.6	11.0	56.0	6H
811130	BEZO/ 1 66	E8	HWS	62.8	69.5	0.43	82.4	9.7	60.5	6H
811131	CNO 67/BEZO	5/ E9	HRS	62.4	71.3	0.37	87.4	11.0	58.3	3H
811132	TOB 66/R50// 1 66	6/ E14	HRS	63.2	72.2	0.38	87.9	10.2	59.1	3H
811133	OPAL/166	6/ E15	HWS	62.4	65.9	0.42	79.2	9.9	59.8	8M
811134	ZAGREB 673/2*1 66// 1 66R	6/ E16	HRS	62.4	73.3	0.36	89.9	11.3	59.9	2H
811135	TOB 66/RS0// 1 66	E17	HRS	65.2	71.1	0.40	85.7	10.1	58.4	3H
811136	1 66/BB'S'//ANZA	6/ E19	HRS	63.6	73.3	0.37	89.8	10.0	55.2	3M
811137	TACUARI INTA/YEC 70	5/ E24	HRS	65.2	72.9	0.38	88.9	11.0	58.4	5H
811138	ANZA *2/JUSTIN	E29	HRS	62.4	71.3	0.40	86.1	10.3	54.9	1H
811139	ANZA (E31)	C1015284	HRS	62.8	70.2	0.39	85.2	9.3	54.9	3M
811140	SHASTA (E32)	C1013976	HRS	62.8	69.7	0.43	82.8	10.6	57.8	3H
811141	INIA 66R (E33)	C1014195	HRS	65.2	72.5	0.35	89.8	11.2	58.6	5H
811142	ANZA *2/JUSTIN	E36	HRS	64.0	71.5	0.38	87.4	10.6	54.0	1H
811143	INIA/ANZA	E39	HRS	62.4	68.6	0.43	81.5	10.8	59.5	3H



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DAVIS, CA

C.O. QUALSET

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMK'S
				3/			4/			
811126	ANZA*2/JUSTIN	E1	HRS	59.5	59.1	2.2	920	895	4	Q-BCRGR
811127	ANZA*2/JUSTIN	E2	HRS	59.9	59.6	2.3	985	966	4	Q-BCRGR
811128	ANZA/JUSTIN	E4	HRS	61.6	60.5	2.0	990	922	2	Q-MTIME
811129	YR'S' (R)/MEXIFAN	E6	HRS	60.2	59.2	8.0	1045	983	2	P-LVOL&BCRGR
811130	BEZO/1 66	E8	HWS	64.4	64.7	7.6	865	884	6	P-LVOL&BCRGR
811131	CNO 67/BEZO	E9	HRS	63.0	62.0	3.7	980	918	2	Q-BCRGR
811132	TOB 66/R50//1 66	E14	HRS	61.5	61.3	3.5	955	943	4	P-LVOL&BCRGR
811133	OPAL/166	E15	HWS	66.9	67.0	6.6	845	851	6	Q-MTIME
811134	ZAGREB 673/2*1 66//1 66R	E16	HRS	60.2	58.9	1.9	1043	962	2	P-LVOL&BCRGR
811135	TOB 66/RSO//1 66	E17	HRS	61.7	61.6	4.5	785	779	4	Q-BCRGR
811136	1 66/BB'S'//ANZA	E19	HRS	57.4	57.4	2.4	935	935	4	Q-BCRGR
811137	TACUARI INTA/YEC 70	E24	HRS	65.6	64.6	5.9	910	848	2	Q-LVOL
811138	ANZA *2/JUSTIN	E29	HRS	54.4	54.1	1.6	930	911	5	P-MTIME&BCRGR
811139	ANZA (E31)	C1015284	HRS	56.4	57.1	2.2	825	868	5	
811140	SHASTA (E32)	C1013976	HRS	61.6	61.0	2.8	925	888	4	
811141	INIA 66R (E33)	C1014195	HRS	62.0	60.8	4.4	1025	951	2	P-LVOL
811142	ANZA *2/JUSTIN	E36	HRS	54.8	54.2	1.2	920	883	8	P-MILLING&BCRGR
811143	INIA/ANZA	E39	HRS	62.5	61.7	3.0	938	888	3	

1/ Observed Values Corrected to 14% Moisture Basis.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

3/ Absorption at 14% Moisture Corrected to 10% Protein.

4/ Observed Values Corrected to 10% Protein.

COMMENTS: Note some of the selections footnoted as promising have some questionable quality characteristics but are worthy of further testing.



LABNUM	VARIETY	IDNO	CLASS	FASH	FPROT	MABSC	MTYPE	LVOL	LVOLC	BCRGR	RMKS
				<u>1/</u>	<u>1/</u>	<u>3/</u>			<u>4/</u>		
811144	CONTROL TEXAS "	81-716	HRW	0.43	14.0	63.3	4H	1185	1123	1	Equal to Control
811145	EXPERIMENTAL "	81-717	HRW	0.39	12.6	62.2	4H	1115	1140	1	Low Lvls
811146	EXPERIMENTAL "	81-718	HRW	0.36	13.7	62.6	5H	1035	992	2	
811147	CONTROL KANSAS	81-719	HRW	0.43	13.2	63.3	4H	1115	1103	1	Equal to Control
811148	EXPERIMENTAL "	81-720	HRW	0.47	13.4	63.3	4H	1135	1110	1	
811149	CONTROL NEBRASKA	81-721	HRW	0.37	12.4	63.7	3H	1120	1157	1	Equal to Control
811150	EXPERIMENTAL "	81-722	HRW	0.39	11.6	61.9	5H	1080	1167	1	Long Mixing
811151	EXPERIMENTAL "	81-723	HRW	0.44	11.8	61.1	5H	1055	1129	1	Too Long Mixing
811152	EXPERIMENTAL "	81-724	HRW	0.45	12.2	61.9	6H	1165	1165	2	
811153	CONTROL NO. AMER. PLANT BREEDERS	81-725	HRW	0.39	12.2	63.1	5H	1095	1145	2	
811154	EXPERIMENTAL "	81-726	HRW	0.39	12.2	63.8	5H	1065	1115	2	Equal to Control
811155	EXPERIMENTAL "	81-727	HRW	0.39	12.4	63.4	5H	1080	1117	1	Equal to Control
811156	CONTROL SOUTH DAKOTA	81-728	HRW	0.42	12.1	63.9	3H	1060	1116	2	
811157	EXPERIMENTAL "	81-729	HRW	0.39	13.0	62.6	4H	1100	1100	2	Equal to Control
811158	EXPERIMENTAL "	81-730	HRW	0.47	12.6	62.2	5H	1215	1240	4	Open BCRGR
811159	EXPERIMENTAL "	81-731	HRW	0.38	13.3	64.0	3H	1220	1201	4	Open BCRGR

1/ Observed Values Corrected to 14% Moisture Basis.      5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 13% Protein.      6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 13% Protein.

COMMENTS: These flour samples were baked and evaluated in cooperation with the Hard Red Winter Wheat Quality Council, Manhattan, KS.



LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	/_	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	RMKS	<u>1/</u>	<u>3/</u>	<u>4/</u>
															<u>1/</u>	<u>3/</u>	<u>4/</u>
811160	STEPHENS (82001)	C1017596	SWW	62.0	75.5	0.48	86.4	9.1	53.3	8.85	8.86	2M					
811161	DAWS (82004)	C1017419	SWW	62.4	73.9	0.47	85.5	8.7	56.8	8.75	8.72	3L					
811162	YAMHILL (82006)	C1014563	SWW	62.4	76.2	0.42	91.3	8.6	55.4	9.19	9.14	2L					
811163		5/82009	SWW	60.4	75.1	0.41	90.4	8.4	54.9	9.06	9.00	3L					
811164		5/82010	SWW	62.4	77.2	0.42	92.8	8.4	54.9	9.04	8.97	3L					
811165		6/82011	SWW	62.4	72.9	0.44	85.9	9.2	57.2	8.59	8.61	2M					
811166		5/82015	SWW	63.2	74.5	0.47	85.9	9.4	56.9	9.07	9.12	3M					
811167		5/82018	SWW	64.4	73.1	0.40	88.5	9.6	51.7	9.01	9.08	1M					
811168		*5/82022	SWW	63.2	76.3	0.47	88.3	8.5	52.9	9.26	9.21	2M					
811169		6/82032	SWW	61.6	74.9	0.50	84.9	8.1	54.5	9.10	9.00	2L					
811170		6/82033	SWW	61.6	74.4	0.46	86.7	8.7	53.1	9.06	9.03	2M					
811171		6/82036	SWW	62.8	73.9	0.43	87.9	9.0	52.0	8.77	8.77	2M					
811172		5/82039	SWW	63.6	75.5	0.43	89.9	9.2	51.9	9.01	9.03	2M					
811173		*5/82045	SWW	63.2	76.0	0.44	90.0	8.9	53.0	9.30	9.29	2M					
811174		5/82046	SWW	64.4	76.2	0.44	90.3	9.0	56.1	9.04	9.04	3M					
811175		82047	SWW	64.4	72.7	0.48	83.3	8.9	57.0	8.77	8.76	3M					
811176		6/82048	SWW	65.2	73.2	0.49	83.0	9.0	56.1	8.60	8.60	2M					
811177		6/82052	SWW	64.8	74.7	0.44	88.2	8.3	58.3	8.77	8.70	3M					
811178		6/82057	SWW	63.6	74.5	0.48	85.4	9.1	56.9	8.71	8.72	2M					
811179		6/82070	SWW	63.2	73.9	0.44	87.1	9.0	57.6	8.90	8.90	5L					
811180		5/82072	SWW	64.4	74.7	0.43	89.1	8.7	55.6	8.92	8.89	2M					
811181		5/82073	SWW	63.6	71.2	0.45	83.3	8.8	55.5	9.14	9.12	3L					
811182		5/82075	SWW	61.2	74.1	0.41	89.4	8.1	55.4	9.09	8.99	4L					
811183		6/82076	SWW	65.2	73.3	0.45	85.5	8.1	55.2	8.94	8.84	2L					

1/ Observed Values Corrected to 14% Moisture Basis.

3/ Absorption at 14% Moisture Corrected to 9% Protein.

5/ Particularly Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 9% Protein.

6/ Promising Overall Quality Characteristics.

COMMENTS: This group of soft white winter selections have excellent overall quality. Those with an asterisk (\*) are outstanding.



W. E. KRONSTAD

MORO, OR

LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	RMKS	4/		
														1/	2/	3/
8111184	STEPHENS (82001)	C1017596	SWW	63.2	75.3	0.39	92.1	7.8	50.5	9.09	9.18	2L				
8111185	HYSLOP (82002)	C1013438	SWW	63.6	73.7	0.41	88.8	8.8	51.6	9.01	9.21	3L				
8111186	DAWS (82004)	C1017419	SWW	63.2	73.7	0.40	89.2	6.9	52.5	8.75	8.74	6L				
8111187	YAMHILL (82006)	C1014563	SWW	60.8	74.9	0.41	90.5	7.1	54.0	9.31	9.32	5L				
8111188	HILL (82007)	SWW	62.4	75.4	0.40	91.6	7.6	53.7	8.95	9.02	2L					
8111189		5/820112	SWW	63.2	74.7	0.37	92.6	7.1	53.0	8.99	9.00	2L				
8111190		*5/82013	SWW	62.4	74.1	0.38	91.0	7.0	53.8	9.12	9.12	2L				
8111191		6/82014	SWW	62.8	75.1	0.37	93.4	7.0	54.8	9.01	9.01	2L				
8111192		6/82016	SWW	62.0	74.1	0.43	88.2	6.0	54.3	9.21	9.10	5L				
8111193		*5/82017	SWW	61.6	73.4	0.38	90.4	6.9	51.5	9.49	9.48	1L				
8111194		*5/82019	SWW	61.2	76.8	0.39	93.9	6.5	53.5	9.14	9.08	1L				
8111195		5/82021	SWW	63.6	74.0	0.40	90.0	7.1	54.2	9.05	9.06	2L				
8111196		5/82023	SWW	60.4	71.8	0.46	83.4	6.2	55.1	8.89	8.80	2L				
8111197		5/82024	SWW	61.6	74.8	0.40	91.2	6.9	53.2	9.17	9.16	5L				
8111198		6/82025	SWW	62.0	74.8	0.40	90.5	6.4	53.7	8.86	8.80	5L				
8111199		5/82026	SWW	64.0	75.5	0.39	92.3	6.8	54.0	9.00	8.98	5L				
8111200		5/82027	SWW	63.2	74.9	0.41	90.6	7.6	53.2	8.76	8.83	2L				
8111201		5/82029	SWW	62.0	73.1	0.44	86.3	6.6	51.8	9.21	9.17	2L				
8111202		5/82030	SWW	62.8	74.5	0.45	87.6	7.2	53.7	8.91	8.93	2L				
8111203		5/82038	SWW	61.2	76.5	0.46	89.3	6.4	52.7	9.14	9.07	5L				
8111204		6/82042	SWW	58.4	74.7	0.44	88.0	5.4	53.0	9.05	8.87	5L				
8111205		6/82043	SWW	63.6	73.3	0.44	86.3	5.9	55.4	8.91	8.79	5L				
8111206		6/82044	SWW	62.0	73.9	0.44	87.4	5.8	55.3	8.76	8.63	5L				
8111207		6/82049	SWW	64.0	72.6	0.39	88.5	6.4	54.4	8.96	8.90	5L				
8111208		6/82050	SWW	64.8	76.0	0.44	89.6	7.0	56.5	8.66	8.66	3L				
8111209		6/82051	SWW	64.8	74.0	0.41	89.0	6.6	54.3	9.02	8.98	5L				
8111210		6/82053	SWW	64.0	73.5	0.41	88.3	6.5	54.0	9.26	9.21	5L				
8111211		6/82054	SWW	64.8	74.7	0.43	89.0	6.7	53.7	9.11	9.08	3L				
8111212		6/82055	SWW	63.6	73.5	0.43	87.5	7.4	54.4	8.92	8.97	3L				
8111213		6/82058	SWW	64.8	75.0	0.40	90.8	6.4	53.7	8.71	8.65	2L				
8111214		6/82062	SWW	65.2	74.5	0.42	89.0	6.8	54.6	8.79	8.77	5L				
8111215		5/82065	SWW	65.2	77.2	0.45	90.8	6.4	56.7	8.87	8.81	6L				
8111216		5/82066	SWW	62.8	77.9	0.40	95.0	5.8	55.8	8.85	8.72	5L				
8111217		5/82067	SWW	65.6	74.6	0.39	91.0	7.1	53.2	8.75	8.76	5L				
8111218		6/82068	SWW	63.6	73.5	0.41	88.7	6.5	53.9	8.86	8.81	5L				



NURSCO 40

MORO, OR

W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	RMKS
					<u>1/</u>				<u>1/</u>	<u>3/</u>			<u>4/</u>
811219		5/ 82069	SWW	64.0	75.5	0.41	90.9	6.7	53.1	9.27	9.24	5L	
811220		6/ 82071	SWW	65.6	74.5	0.43	88.5	6.5	52.9	9.24	9.18	5L	
811221		*5/ 82074	SWW	60.4	76.1	0.38	93.6	6.1	53.3	9.25	9.15	5L	

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 7% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 7% Protein.

COMMENTS: This is an outstanding group of selections for quality. Milling yields were well above normal, but most experimental selections were equal to or better than the check varieties.  
\* Most outstanding selections.



W.E. KRONSTAD

MORO, OR

NURSCO 41

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
					1/	1/		1/	3/	
811222	WANSER (82001)	C1013844	HRW	64.8	73.0	0.38	88.9	7.7	57.8	6L
811223		82004	HRW	64.4	71.0	0.37	87.1	8.1	61.2	6L
811224		82005	HRW	63.2	72.4	0.40	87.1	8.2	59.7	6L
811225		82006	HRW	65.2	71.7	0.36	88.2	8.4	59.6	6L
811226		82007	HRW	64.4	71.6	0.35	88.7	8.8	59.0	6L
811227		82008	HRW	64.4	71.1	0.40	85.8	7.5	61.9	6L
811228		82010	HRW	65.2	72.1	0.37	88.4	8.8	60.6	6L
811229		82012	HRW	64.0	71.4	0.38	87.2	8.5	60.6	3M
811230		5/82013	HRW	65.6	74.8	0.34	92.9	11.0	58.9	4M
811231		82014	HRW	65.6	73.1	0.34	91.1	10.5	58.3	2M
811232		82015	HRW	65.2	73.7	0.39	88.7	7.8	60.7	5M
811233		82017	HRW	65.6	69.9	0.36	86.4	7.0	63.6	6L
811234		82018	HRW	65.6	74.7	0.39	90.2	8.5	59.4	5M
811235		82020	HRW	66.4	72.3	0.37	88.7	7.7	58.2	6L



W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
				<u>3/</u>	<u>3/</u>		<u>4/</u>	<u>4/</u>		
811222	WANSER ( 82001 )	C1013844	HRW	60.7	61.0	5.1	655	674	8	
811223		82004	HRW	64.5	64.4	5.4	550	544	9	
811224		82005	HRW	63.1	62.9	4.9	625	613	9	
811225		82006	HRW	63.2	62.8	5.1	675	650	9	
811226		82007	HRW	63.5	62.7	5.6	625	575	9	
811227										
811228		82008	HRW	64.6	65.1	7.6	400	431	9	
811229		82010	HRW	64.6	63.8	5.0	805	755	7	
811230		82012	HRW	64.3	63.8	2.4	700	669	8	
811231		82013	HRW	66.1	63.1	4.2	975	789	3	
811232		82014	HRW	62.0	59.5	1.8	810	655	6	
811233		82015	HRW							
811234		82017	HRW							
811235		82018	HRW							
		82020	HRW							

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 3% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 8% Protein.

COMMENTS: All selections except 82017 were equal to or better than Wanser in milling properties, Selections 13 and 18 are outstanding in milling. Flour protein was so low on most, it was not meaningful to bake them. After seeing baking results of the first 10 it was concluded to be useless to bake the last 4 selections. We would suggest you resubmit these selections from a sight and conditions conducive to production of higher protein. Noteworthy are the protein levels of selections 13 & 14.



W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	RMKS
811236	WANSER (82001)	C013844	HRW	64.0	72.2	0.42	85.6	7.2	58.2	4L	
811237		82009	HRW	63.6	70.2	0.43	83.3	7.4	57.0	3L	
811238		82011	HRW	64.8	69.6	0.43	82.6	7.6	62.5	4L	
811239		82016	HRW	62.8	73.0	0.38	88.5	8.7	60.2	4L	
811240		82019	HRW	63.6	71.3	0.45	83.2	7.9	59.5	3L	
811241		82021	HRW	63.6	71.1	0.41	85.1	7.6	58.4	3M	

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 8% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 8% Protein.

COMMENTS: Flour proteins were too low to provide meaningful bread baking results. Selection 82016 appears to be excellent in milling properties. The others may be questionable. No's 11 & 16 were near Wanser in dough mixing (MTYPE) while the others may be short and weaker.



NURSCO 43 PENDLETON, OR W. E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE	CODI	CODIC	RMKS	<u>4/</u>
														<u>1/</u>
811242	STEPHENS (82001)	C1017596	SWW	61.2	75.3	0.47	86.9	7.1	53.3	2L	9.11	9.12		
811243	DAWS (82004)	C1017419	SWW	62.0	74.1	0.44	87.3	6.5	52.1	2L	8.82	8.77		
811244	HILL (82007)	SWW	62.4	75.7	0.46	88.5	7.3	52.2	2L	9.14	9.17			
811245	FEDERATION (82008)	SWW	52.0	64.3	0.50	71.2	7.7	53.4	2L	8.75	8.83	P-TWT&FYIELD		
811246		SWW	62.0	76.9	0.44	90.8	8.6	52.2	1L	9.02	9.20			
811247														
811248														
811249														
811250														
811251														
811252														
811253														
811254														
811255														
811256														
811257														
811258														
811259														

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 7% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 7% Protein.

COMMENTS: The nursery was above average expected quality in both milling and baking properties. There are many promising selections in this group.



NURSCO 44 W.E. KRONSTAD

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	F PROT	MABSC	M TYPE
						1/		1/	3/	
811260	WANSER (82001)	C1013844	HRW	62.7	68.5	0.39	81.1	10.5	59.9	5H
811261	HATTON (82014)	C1017772	HRW	65.2	70.5	0.39	83.7	8.5	59.7	8M
811262	NDD/WW//LEE/FN/N	82004	SRW	63.4	70.0	0.39	81.1	7.3	56.5	6L
811263	BEZO/TOB//8156	82006	HRW	64.7	70.3	0.41	82.8	9.1	60.2	8M
811264	ALBA/GNS//FN/SON 64	82007	HRW	65.2	67.6	0.40	78.8	7.8	59.9	5M
811265	55-1744/FC//SUW/ROED	82008	HRW	63.7	66.2	0.43	74.7	7.8	61.1	3M
811266	AU/ERA	82009	HRW	65.1	70.9	0.46	80.7	8.6	60.1	4L
811267	AU/ERA	82010	HRW	64.9	68.0	0.45	76.9	7.9	60.3	3L
811268	ANZA/STURDY	82011	HRW	65.4	68.6	0.46	77.8	8.7	60.4	6L
811269	55-1744/FC//SUW/ROED	82012	HRW	64.0	66.7	0.45	75.2	7.7	60.1	2M
811270	PROBSTORFER EXTREM/TOB66	82013	HRW	65.2	71.4	0.44	83.7	8.2	60.9	6L
811271	INIA 66R//HBGN/CD	82015	HRW	63.9	67.5	0.40	79.3	7.5	59.7	5L
811272	RIEB/YMH, F//NDD/1*C13438	82016	HRW	62.3	70.1	0.41	82.7	6.6	58.5	8L
811273	55-1744/FC//SUW/ROED	82017	HRW	62.5	68.9	0.43	80.0	10.3	59.4	2M
811274	PROSTORFER EXTREM/TOB 66	82018	HRW	65.1	70.0	0.39	83.8	8.3	61.5	8L



W. E. KRONSTAD

NURSCO 44

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOLC 4/	BCRGR	RMKS
811260	WANSER (82001)	C1013844	HRW	66.6	64.1	5.3	935	780	2	
811261	HATTON (82014)	C1017772	HRW							
811262	NDD/WN//LEE/FN/N	82004	SRW							
811263	BEZO/TOB//8156	82006	HRW							
811264	ALBA/GNS//FN/SON 64	82007	HRW							
811265	55-1744/FC//SUW/ROED	82008	HRW							
811266	AU/ERA	82009	HRW							
811267	AU/ERA	82010	HRW							
811268	ANZA/STURDY	82011	HRW							
811269	55-1744/FC//SUW/ROED	82012	HRW							
811270	PROSTORFER EXTREM/TOB66	82013	HRW							
811271	INIA 66R//HBGN/CD	82015	HRW							
811272	RIEB/YMH, F//NDD/1*CI 13438	82016	HRW							
811273	55-1744/FC//SUW/ROED	82017	HRW							
811274	PROSTORFER EXTREM/TOB 66	82018	HRW							

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 8% Protein.  
4/ Observed Values Corrected to 8% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: Because of the extremely low protein only a selected few which had dough strength (based on mixograph tests) were baked. None of these proved to be acceptable. Some appear to have milling quality equal to Wanser, but a few were significantly poorer. Attempts should be made to grow these under conditions to increase the protein.



LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE	CODI	CODIC	RMKS
<u>1/</u>													<u>4/</u>
811275	HYSLOP (82001)	C1013438	SWW	63.3	72.5	0.41	84.4	8.9	52.7	3L	8.25	8.46	LOW CODI
811276	STEPHENS (82002)	C1017596	SWW	62.8	72.6	0.37	86.3	7.9	54.4	2L	8.61	8.71	
811277	DAWS (82003)	C1017419	SWW	62.8	72.2	0.39	84.6	7.2	54.1	8L	8.47	8.50	LOW CODI
811278	FARO (82004)	C017590	club	62.2	75.0	0.39	89.1	7.0	51.6	2L	8.81	8.81	
811279	JACMAR (82005)	club	62.3	75.7	0.38	90.0	6.8	52.5	3L	9.02	9.00		
811280		5/ 82006	SWW	62.1	72.7	0.37	87.0	7.7	53.4	8L	8.79	8.86	
811281		6/ 82007	SWW	60.1	71.7	0.38	83.2	7.0	53.2	8L	8.87	8.87	
811282		6/ 82008	SWW	62.7	72.3	0.37	85.6	7.7	51.7	8L	8.99	9.06	
811283		5/ 82009	SWW	63.4	72.8	0.37	86.2	7.1	52.8	2L	8.60	8.61	
811284		5/ 82010	SWW	60.7	75.0	0.38	88.0	7.1	52.2	3L	8.84	8.85	
811285		5/ 82011	SWW	63.4	73.1	0.38	87.3	8.3	52.6	6L	8.56	8.71	
811286		5/ 82012	SWW	61.4	75.0	0.37	89.6	7.6	49.8	2L	8.85	8.92	
811287		6/ 82013	SWW	61.1	71.9	0.43	81.2	8.0	52.9	2L	8.35	8.46	
811288		6/ 82014	SWW	62.9	73.6	0.41	85.6	8.2	52.9	6L	8.44	8.57	
811289		6/ 82015	SWW	62.1	73.0	0.40	85.3	7.5	53.3	3L	8.54	8.59	
811290		5/ 82016	SWW	62.2	69.1	0.41	77.1	8.0	53.2	2L	8.46	8.57	
811291		6/ 82017	SWW	62.8	73.9	0.39	87.3	6.7	52.4	2L	8.69	8.65	
811292		6/ 82018	SWW	62.7	72.9	0.41	84.7	6.9	53.0	2L	8.59	8.58	
811293		5/ 82019	SWW	63.1	73.5	0.38	86.6	7.1	49.9	8L	8.90	8.91	
811294		5/ 82020	SWW	62.4	73.8	0.38	87.1	7.4	52.5	4L	8.89	8.93	
811295		6/ 82021	SWW	61.3	73.0	0.42	84.5	7.0	52.3	6L	8.54	8.54	
811296		6/ 82022	SWW	61.4	73.2	0.38	86.3	6.4	52.9	6L	9.02	8.96	
811297		6/ 82023	SWW	62.9	72.1	0.41	83.1	7.9	52.9	2L	8.64	8.74	
811298		6/ 82024	SWW	62.5	72.9	0.37	86.2	7.1	53.5	6L	9.01	9.02	
811299		6/ 82025	SWW	61.4	71.5	0.42	81.6	6.1	51.1	8L	8.91	8.81	P-MSCOR
811300		6/ 82026	SWW	64.8	71.6	0.38	84.2	7.8	52.4	3L	8.35	8.44	Q-MSCOR
811301		6/ 82027	SWW	63.6	72.6	0.37	86.1	7.4	53.7	2L	8.87	8.92	
811302		5/ 82028	SWW	63.6	71.1	0.39	83.0	6.7	53.7	2L	8.61	8.58	Q-FYIELD&MSCOR
811303		5/ 82029	SWW	59.9	74.7	0.38	88.4	6.0	51.6	8L	9.17	9.06	
811304		6/ 82030	SWW	62.2	73.3	0.39	86.5	6.5	52.1	8L	9.09	9.03	
811305		5/ 82031	SWW	62.2	73.7	0.38	86.9	6.6	52.2	8L	9.11	9.07	
811306		6/ 82032	SWW	62.9	73.7	0.37	87.7	6.7	52.9	3L	8.62	8.59	

1/ Observed Values Corrected to 14% Moisture Basis.  
2/ Absorption at 14% Moisture Corrected to 7% Protein.  
3/ Observed Values Corrected to 7% Protein.

4/ Several of these selections have excellent overall quality. Sel. No. 82010 and 82012 are outstanding in yield, equal to club wheats.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.



TULELAKE, CA

P. PURI

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH <u>1/</u>	MSCOR	FPROT <u>1/</u>	MABSC <u>3/</u>	MTYPE	BABS
811307		<u>6/</u> 81-2-0	HWS	66.0	71.9	0.42	85.7	8.2	57.7	8M	63.1
811308		<u>6/</u> 81-2-1	HWS	64.8	71.8	0.41	85.9	9.1	57.0	8M	62.3
811309		<u>6/</u> 81-2-2	HWS	64.4	72.8	0.40	87.3	10.3	57.7	5H	64.2
811310		<u>6/</u> 81-2-3	HWS	64.0	73.1	0.39	88.4	11.4	58.3	5H	65.9
811311	YECORA ROJO	81-13-0	HRS	64.4	70.8	0.44	83.5	8.6	58.3	7M	64.1
811312	YECORA ROJO	81-13-1	HRS	63.6	71.2	0.43	84.3	8.9	57.5	7M	64.1
811313	YECORA ROJO	81-13-2	HRS	62.8	71.8	0.42	85.5	10.5	57.5	6M	64.2
811314	YECORA ROJO	81-13-3	HRS	62.0	72.2	0.43	85.5	10.7	59.6	6M	64.5
811315	FIELDER	81-14-0	SWS	63.6	72.5	0.40	88.1	6.7	52.4	1L	
811316	FIELDER	81-14-1	SWS	63.2	73.3	0.42	87.8	7.5	53.3	1L	
811317	FIELDER	81-14-2	SWS	63.2	73.3	0.42	87.7	7.8	53.5	1M	
811318	FIELDER	81-14-3	SWS	63.2	73.5	0.42	88.0	8.3	53.7	2M	
811319		<u>6/</u> 81-15-0	SWS	62.4	72.7	0.41	87.7	7.2	54.9	1L	
811320		<u>6/</u> 81-15-1	SWS	63.2	72.6	0.41	87.7	7.3	55.1	1L	
811321		<u>6/</u> 81-15-2	SWS	62.8	73.2	0.43	87.0	8.3	53.1	1M	
811322		<u>6/</u> 81-15-3	SWS	62.8	73.0	0.41	87.8	8.5	52.8	1M	
811323		81-16-0	HRS	65.6	72.7	0.42	86.5	9.9	55.6	3M	59.2
811324		81-16-1	HRS	65.6	73.0	0.43	86.3	9.8	55.0	2H	59.5
811325		81-16-2	HRS	64.8	72.2	0.44	84.6	10.8	55.7	2H	60.7
811326		81-16-3	HRS	64.8	73.4	0.42	87.2	11.3	54.1	1H	58.6



TULELAKE, CA

P. PURI

LABNUM	VARIETY	IDNO	CLASS	BABSC	MTIME	LVOL	LVOLC	BCRGR	CODI	CODIC	RMKS
<u>3/</u> <u>4/</u>											
811307		81-2-0	HWS	63.9	6.4	915	965				3
811308		81-2-1	HWS	62.2	5.8	900	894				2
811309		81-2-2	HWS	62.9	5.5	983	902				2
811310		81-2-3	HWS	63.5	4.8	1065	916				2
811311	YECORA ROJO	81-13-0	HRS	64.5	6.0	855	880				4
811312	YECORA ROJO	81-13-1	HRS	64.2	4.0	900	906				2
811313	YECORA ROJO	81-13-2	HRS	62.7	3.8	950	857				2
811314	YECORA ROJO	81-13-3	HRS	62.8	3.1	998	893				2
811315	FIELDER	81-14-0	SWS								
811316	FIELDER	81-14-1	SWS								
811317	FIELDER	81-14-2	SWS								
811318	FIELDER	81-14-3	SWS								
811319		81-15-0	SWS								
811320		81-15-1	SWS								
811321		81-15-2	SWS								
811322		81-15-3	SWS								
811323		81-16-0	HRS	58.3	2.2	810	754				4
811324		81-16-1	HRS	58.7	2.6	800	750				6
811325		81-16-2	HRS	58.9	2.1	850	738				6
811326		81-16-3	HRS	56.3	1.7	860	717				8

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 9% Protein.  
4/ Observed Values Corrected to 9% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: Selection 81-2, a hard white spring, is equal to or better than Yecora Rojo in milling and baking quality at all protein levels. Selection 81-16 (HRS), however, is very poor in breadmaking properties. Selection 81-15 (SWS), is equal to or better than Fielder in overall soft wheat quality.

P-LVOL&BCRGR  
P-LVOL&BCRGR  
P-LVOL&BCRGR  
P-LVOL&BCRGR



NURSCO 47

WALWALA, PUL, CLYDE WA

R. E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE
					1/	1/		1/	3/	
811327	BISON (JAPAN) --WALLA WALLA--CFK7-1	5/C1012518	HRW	62.8	75.8	0.36	92.8	11.8	63.2	4M
811328	BISON (JAPAN) CFK7-11	5/C1012518	HRW	64.0	75.6	0.36	92.5	11.0	62.0	4M
811329	BISON (JAPAN) CFK7-111	5/C1012518	HRW	62.0	74.7	0.37	90.9	11.4	61.5	3M
811330	BISON (JAPAN) (SGUAROSA) CFK8-1	5/C1012518	HRW	62.0	75.5	0.38	91.4	11.8	62.6	4H
811331	BISON (JAPAN) (SGUAROSA) CFK8-11	5/C1012518	HRW	63.6	75.9	0.38	91.8	11.8	62.6	4H
811332	BISON (JAPAN) (SGUAROSA) CFK8-111	5/C1012518	HRW	60.4	74.2	0.41	88.7	11.4	61.1	3M
811333	BISON (JAPAN) --PULLMAN LATE--CFK7-1	5/C1012518	HRW	53.2	69.0	0.44	81.6	11.9	63.3	3H
811334	BISON (JAPAN) CFK7-11	5/C1012518	HRW	54.0	69.5	0.44	81.9	11.8	63.3	3H
811335	BISON (JAPAN) CFK7-111	5/C1012518	HRW	54.0	69.8	0.44	82.2	11.7	64.4	3H
811336	BISON (JAPAN) (SGUAROSA) CFK8-1	6/C1012518	HRW	56.0	71.6	0.41	85.5	11.0	64.3	3H
811337	BISON (JAPAN) (SGUAROSA) CFK8-11	5/C1012518	HRW	55.2	70.4	0.43	83.6	11.9	64.3	3H
811338	BISON (JAPAN) (SGUAROSA) CFK8-111	6/C1012518	HRW	55.2	71.5	0.43	84.7	11.8	64.1	3H
811339	BISON (JAPAN) (SGUAROSA)--CLYDE--CFK8-1	6/C1012518	HRW	60.0	72.6	0.38	88.5	11.5	64.4	3H
811340	BISON (JAPAN) (SGUAROSA) CFK8-11	5/C1012518	HRW	60.8	73.5	0.38	89.3	11.3	65.0	4H



NURSCO 47

WALWALA, PUL, CLYDE WA

R. E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC 3/	MTIME	LVOL	LVOCL 4/	BCRGR	RMKS*
811327	BISON (JAPAN) --WALLA WALLA--CFK7-1	C1012518	HRW	66.2	66.4	3.2	1040	1052		2
811328	BISON (JAPAN) CFK7-1	C1012518	HRW	64.2	65.2	3.3	955	1017		2
811329	BISON (JAPAN) CFK7-1	C1012518	HRW	63.1	63.7	2.7	990	1027		2
811330	BISON (JAPAN) (SGUAROSA) CFK8-1	C1012518	HRW	65.6	65.8	3.6	1015	1027		2
811331	BISON (JAPAN) (SGUAROSA) CFK8-1	C1012518	HRW	65.6	65.8	2.9	1015	1027		2
811332	BISON (JAPAN) (SGUAROSA) CFK8-1	C1012518	HRW	63.7	64.3	3.0	1030	1067		2
811333	BISON (JAPAN) --PULLMAN LATE--CFK7-1	C1012518	HRW	65.4	65.5	2.7	1005	1011		2
811334	BISON (JAPAN) CFK7-1	C1012518	HRW	66.3	66.5	3.2	1035	1047		2
811335	BISON (JAPAN) CFK7-1	C1012518	HRW	66.8	67.1	3.1	1055	1074		2
811336	BISON (JAPAN) (SGUAROSA) CFK8-1	C1012518	HRW	65.5	66.5	3.0	1000	1062		2
811337	BISON (JAPAN) (SGUAROSA) CFK8-1	C1012518	HRW	66.9	67.0	2.9	1035	1041		2
811338	BISON (JAPAN) (SGUAROSA) CFK8-1	C1012518	HRW	66.1	66.3	3.5	1025	1037		2
811339	BISON (JAPAN) (SGUAROSA) --CLYDE--CFK8-1	C1012518	HRW	67.1	67.6	3.1	1020	1051		2
811340	BISON (JAPAN) (SGUAROSA) CFK8-1	C1012518	HRW	68.0	68.7	3.8	995	1038		2

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 12% Protein.  
4/ Observed Values Corrected to 12% Protein.

COMMENTS: These are some outstanding HRW crosses. All were acceptable in baking quality, but those that had poor test weights were low in flour yield.

\* P = Poor

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.



LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FLASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	RMKS	<u>4/</u>		
														<u>1/</u>	<u>2/</u>	<u>3/</u>
811341	GAINES (JAPAN) --WALLA WALLA--CFK1-1	C1013448	SWW	49.2	68.5	0.59	71.8	9.2	56.7	8.31	8.22	3M				
811342	GAINES (JAPAN) CFK1-1	C1013448	SWW	49.2	70.5	0.77	62.6	9.7	55.6	8.14	8.10	3M				
811343	GAINES (JAPAN) CFK1-1	C1013448	SWW	48.4	68.9	0.64	68.9	9.5	55.2	8.17	8.12	3M				
811344	GAINES (JAPAN) CFK2-1	C1013448	SWW	52.8	72.0	0.53	80.0	9.7	56.3	8.06	8.03	3M				
811345	GAINES (JAPAN) CFK2-1	C1013448	SWW	50.0	70.3	0.56	75.8	9.7	56.8	7.99	7.95	3M				
811346	GAINES (JAPAN) CFK2-1	C1013448	SWW	50.8	70.5	0.58	74.9	10.0	55.9	8.24	8.24	2M				
811347	GAINES (WSU) CFK3-1	C1013448	SWW	52.4	72.5	0.54	79.8	9.3	55.4	8.16	8.09	3M				
811348	GAINES (WSU) CFK3-1	C1013448	SWW	50.0	69.8	0.60	72.4	9.6	55.2	8.30	8.26	3M				
811349	GAINES (WSU) CFK3-1	C1013448	SWW	49.6	70.1*	0.60	72.8	9.6	55.2	8.02	7.98	2M				
811350	GAINES (WSU) CFK4-1	C1013448	SWW	56.0	75.4*	0.48	87.7	10.4	56.8	8.16	8.21	2H				
811351	GAINES (WSU) CFK4-1	C1013448	SWW	55.6	74.3*	0.50	84.8	10.5	55.9	8.22	8.28	2H				
811352	GAINES (WSU) CFK4-1	C1013448	SWW	55.6	74.4*	0.49	85.7	10.6	55.9	8.19	8.25	2H				
811353	NUGAINES (JAPAN) CFK5-1	C1013968	SWW	49.0	70.3	0.58	74.5	9.8	55.4	7.96	7.94	3M				
811354	NUGAINES (JAPAN) CFK5-1	C1013968	SWW	51.6	70.8	0.58	75.2	9.5	56.0	8.06	8.01	2M				
811355	NUGAINES (JAPAN) CFK5-1	C1013968	SWW	49.6	69.4	0.57	74.1	9.7	56.2	8.21	8.18	3M				
811356	NUGAINES (JAPAN) (SGUAROSA) CFK6-1	C1013968	SWW	52.4	72.0	0.52	80.5	9.7	55.8	8.14	8.10	3M				
811357	NUGAINES (JAPAN) (SGUAROSA) CFK6-1	C1013968	SWW	49.2	69.7	0.58	73.9	9.9	55.9	8.12	8.11	3M				
811358	NUGAINES (JAPAN) (SGUAROSA) CFK6-1	C1013968	SWW	49.6	69.9	0.58	74.2	9.9	56.1	8.00	7.99	3M				
811359	NUGAINES (JAPAN) -CLYDE--CFK5-1	C1013968	SWW	52.0	71.4*	0.55	77.7	9.5	55.9	8.06	8.01	3M				
811360	NUGAINES (JAPAN) CFK5-1	C1013968	SWW	54.8	74.2*	0.51	84.2	9.4	56.0	8.12	8.06	3M				
811361	NUGAINES (JAPAN) (SGUAROSA) CFK6-1	C1013968	SWW	51.2	71.0	0.58	75.6	9.7	56.2	8.12	8.09	3M				
811362	NUGAINES (JAPAN) (SGUAROSA) CFK6-1	C1013968	SWW	54.0	73.2*	0.52	82.3	9.7	56.2	8.01	7.98	3M				
811363	GAINES (JAPAN) -PULLMAN LATE--CFK1-1	C1013448	SWW	47.6	69.2	0.64	69.6	9.3	55.1	8.07	8.00	3M				
811364	GAINES (JAPAN) CFK1-1	C1013448	SWW	43.6	67.2	0.67	64.7	10.2	57.7	7.86	7.88	3M				
811365	GAINES (JAPAN) CFK1-1	C1013448	SWW	41.6	64.5	0.73	57.5	10.2	57.2	7.89	7.91	3M				
811366	GAINES (JAPAN) CFK2-1	C1013448	SWW	48.4	69.9	0.61	72.5	9.4	56.8	8.24	8.17	3M				
811367	GAINES (JAPAN) CFK2-1	C1013448	SWW	44.0	66.6	0.66	74.9	9.3	58.2	7.84	7.76	3M				
811368	GAINES (JAPAN) CFK2-1	C1013448	SWW	44.8	66.9	0.64	66.2	10.5	56.4	7.96	8.02	3M				
811369	GAINES (WSU) CFK3-1	C1013448	SWW	47.2	69.0	0.66	67.6	9.1	57.1	8.25	8.15	3M				
811370	GAINES (WSU) CFK3-1	C1013448	SWW	43.2	65.3	0.66	63.2	9.8	56.7	8.02	8.00	3M				
811371	GAINES (WSU) CFK3-1	C1013448	SWW	45.2	65.7	0.63	65.8	9.9	56.4	8.05	8.04	3M				
811372	GAINES (WSU) CFK4-1	C1013448	SWW	53.2	72.2	0.56	78.5	9.9	55.9	8.35	8.34	2M				
811373	GAINES (WSU) CFK4-1	C1013448	SWW	49.6	71.7	0.64	72.8	10.5	56.5	7.97	8.03	2M				
811374	GAINES (WSU) CFK4-1	C1013448	SWW	50.4	70.7	0.59	74.7	10.3	57.4	8.14	8.17	2M				
811375	NUGAINES (JAPAN) CFK5-1	C1013968	SWW	44.4	67.2	0.69	63.5	9.6	55.2	7.77	7.73	3M				



NURSCO 48

WALWALA, PUL, CLYDE WA

R. E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	F PROT	MABSC	COD1	CODIC	MTYPE	RANKS	1/	3/	4/
														1/	3/	4/
811376	NUGAINES (JAPAN) CFK5-11	C1013968	SHW	44.0	66.8	0.72	61.5	10.2	56.8	7.81	7.83	3M				
811377	NUGAINES (JAPAN) CFK5-111	C1013968	SHW	42.4	66.5	0.76	58.3	10.3	57.7	7.77	7.81	3M				
811378	NUGAINES (JAPAN) (SGUAROSA) CFK6-1	C1013968	SHW	42.4	65.8	0.73	59.5	10.0	56.8	7.82	7.82	3M				
811379	NUGAINES (JAPAN) (SGUAROSA) CFK6-11	C1013968	SHW	40.0	63.4	0.79	52.6	10.6	58.5	7.67	7.74	2H				
811380	NUGAINES (JAPAN) (SGUAROSA) CFK6-111	C1013968	SHW	43.2	66.3	0.72	60.7	10.6	58.4	7.75	7.82	2H				
811381	GAINES (JAPAN) --PULLMAN EARLY--80PS48-1	C1013448	SHW	50.0	72.6*	0.56	78.6	10.3	56.7	8.19	8.22	3M				
811382	GAINES (JAPAN) 80PS48-11	C1013448	SHW	52.0	73.8*	0.54	81.8	9.6	58.0	8.29	8.24	3M				
811383	GAINES (JAPAN) 80PS48-111	C1013448	SHW	48.8	70.6	0.64	70.9	9.5	58.0	8.02	7.97	3M				
811384	GAINES (JAPAN) (SGUAROSA) 80PS49-1	C1013448	SHW	48.8	70.1	0.58	74.2	10.1	57.7	8.09	8.10	2M				
811385	GAINES (JAPAN) (SGUAROSA) 80PS49-11	C1013448	SHW	51.6	71.3	0.54	78.6	10.8	58.3	8.21	8.30	2M				
811386	GAINES (JAPAN) (SGUAROSA) 80PS49-111	C1013448	SHW	49.2	69.0	0.58	73.2	10.4	58.1	8.11	8.16	2M				

1/ Observed Values Corrected to 14% Moisture Basis.  
 3/ Absorption at 14% Moisture Corrected to 10% Protein.  
 4/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
 6/ Promising Overall Quality Characteristics.

COMMENTS: TWT was very low for the entire group, influencing the low flour yield. However, several of the hybrids noted with asterisks gave extremely good flour yields despite low test weight. These have exceptionally good milling properties. While there was some variability in cookie spread, none of the crossed had acceptable cookie baking qualities. Their baking characteristics are typical of hard wheats.







NURSCO 49

CONN, WTRVLL WA

E. DONALDSON

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS
										<u>4/</u>
811387	WANSER (CONNELL)	C1013844	HRW	61.0	60.6	3.8	900	875	3	
811388	HATTON	C1017772	HRW	62.0	61.3	3.2	910	867	2	
811389	173467/GNS//WSR//N10/B14	WA6815	HRW	62.4	61.8	3.7	825	788	3	P-LVOL&BCRGR
811390	ID5012/WA5866	WA6816	HRW	59.3	59.6	2.8	900	919	2	
811391	WA5840/CERCO	WA6817	HRW	61.4	60.9	5.1	770	739	4	P-FYIELD, LVOL&BCRGR
811392	WANSER (WATERVILLE)	C1013844	HRW	60.7	60.7	4.5	850	850	4	
811393	HATTON	C1017772	HRW	61.4	62.2	5.6	770	820	4	P-LVOL&BCRGR
811394	173467/GNS//WSR//N10/B14	WA6815	HRW	61.3	61.6	4.8	680	699	6	P-LVOL&BCRGR
811395	ID5012/WA5866	WA6816	HRW	60.2	61.0	4.3	735	785	5	P-LVOL&BCRGR
811396	WA5840/CERCO	WA6817	HRW	63.4	63.8	5.2	720	745	5	P-FYIELD, LVOL&BCRGR

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 9% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 9% Protein.

COMMENTS: Protein content was too low from both Connell and Waterville to provide meaningful data for breadmaking properties. Using Hatton and Wanser as references the three experimental selections are not equal in baking quality and therefore unsatisfactory. The best of the three is WA6816.



NURSCO 50 R.E. ALLAN  
PULLMAN, WA

LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH	MSCOR	FPROT	MABSC	MTYPE	CODI
						1/		1/	3/		
811397		6/79 PS 23	SWW	59.5	70.7	0.39	84.7	9.7	56.9	3M	8.16
811398		6/79 PS 24	SWW	60.4	73.6	0.40	87.9	8.5	54.3	2M	8.74
811399		6/79 PS 25	SWW	61.1	73.4	0.44	86.5	9.7	56.5	3M	8.03
811400		6/79 PS 26	HWW	64.0	71.3	0.36	88.2	10.4	59.4	3M	8.39
811401		5/79 PS 27	SWW	62.0	75.4	0.38	90.1	7.7	55.8	3L	9.07
811402		6/79 PS 28	HRW	60.8	76.1	0.38	95.4	9.7	54.7	4M	8.26
811403		5/79 PS 29	HRW	59.9	77.3	0.39	97.9	10.5	57.0	4M	8.07
811404		5/79 PS 30	HWW	60.9	73.8	0.40	89.6	10.3	56.2	4M	8.16
811405		5/79 PS 31	SWW	60.8	75.1	0.35	92.1	9.7	54.8	3M	8.96
811406		5/79 PS 32	HWW	61.8	73.4	0.36	89.5	10.8	58.5	6M	8.08
811407		6/79 PS 33	SWW	60.8	73.0	0.36	89.1	9.2	55.3	2M	8.83
811408		5/79 PS 34	SWW	60.5	73.8	0.34	90.5	9.6	55.5	2M	8.97
811409		5/79 PS 35	SWW	60.4	72.5	0.38	87.9	9.2	53.8	2M	8.50



NURSCO 50

PULLMAN, WA

R. E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	CODIC	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	RMKS*	<u>3/</u>	<u>4/</u>
												<u>3/</u>	<u>4/</u>
811397		79	PS 23	SWW	8.13								
811398		79	PS 24	SWW	8.58								
811399		79	PS 25	SWW	8.00								
811400		79	PS 26	HWW	8.42	63.0	62.6	2.7	820	795			
811401		79	PS 27	SWW	8.82								
811402		79	PS 28	HRW	8.23	56.6	56.9	5.0	825	844			
811403		79	PS 29	HRW	8.11	60.2	59.7	3.9	925	894			
811404		79	PS 30	HWW	8.19	58.7	58.4	5.3	875	856			
811405		79	PS 31	SWW	8.93								
811406		79	PS 32	HWW	8.15	61.5	60.7	4.7	890	840			
811407		79	PS 33	SWW	8.74								
811408		79	PS 34	SWW	8.92								
811409		79	PS 35	SWW	8.41								

*Q-CODI*

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 10% Protein.  
4/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.  
COMMENTS: Several of these selections are outstanding. Most outstanding are 79 PS 29 a HRW, 79 PS 31, and 34 SWW's.  
\* P = Poor and Q = Questionable



NURSCO 51

PENDLETON, OR

C.R. ROHDE

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE	CODI	CODIC RMKS
					<u>1/</u>	<u>2/</u>	<u>3/</u>	<u>4/</u>				
811410	STEPHENS HYSLOP	<u>6/</u> SWW	61.9	71.2	0.40	82.2	7.0	53.7	4L		8.81	8.81 Interm to Steph&Hys
811411	STEPHENS	<u>6/</u> SWW	61.5	71.7	0.40	83.8	7.5	53.4	3L		8.96	9.02
811412	FARO HYSLOP	<u>6/</u> SWW	61.7	72.6	0.41	84.9	7.0	51.1	3L		8.81	8.81 Interm to Faro&Hys
811413	TYEE HYSLOP	<u>5/</u> SWW	61.3	73.0	0.41	85.6	6.8	52.2	2L		8.79	8.79 Interm to Tyee&Hys
811414	HYSLOP	<u>5/</u> SWW	62.3	71.5	0.44	81.8	7.2	52.7	5L		8.61	8.64
811415	DAWS HYSLOP	<u>6/</u> SWW	62.2	71.8	0.43	83.2	7.0	52.6	5L		8.55	8.55 Equal to Daws&Hys
811416	NUGAINES	<u>6/</u> SWW	63.1	70.3	0.41	81.2	7.0	53.0	2L		8.96	8.96
811417	REW HYSLOP	<u>6/</u> SWW	61.4	71.1	0.42	82.4	7.2	52.6	2L		8.64	8.66 Equal to Rew&Hys
811418	FARO	CLUB	61.2	71.9	0.39	86.0	6.6	51.1	2L		9.12	9.10
811419	MCDERMID HYSLOP	SWW	62.0	70.8	0.41	81.0	6.8	54.3	3L		8.79	8.77 Equal to McD&Hys
811420	DAWS	SWW	62.0	71.5	0.43	82.3	7.1	52.8	5L		8.59	8.60
811421	YAMHILL	SWW	59.3	72.5	0.42	84.3	7.1	51.0	1L		8.97	8.99
811422	TYEE	CLUB	60.5	73.4	0.41	88.3	6.9	49.0	2L		8.87	8.87
811423	MCDERMID	SWW	62.0	71.4	0.42	82.2	6.9	54.0	2L		8.72	8.71
811424	WALLDAY HYSLOP	SWW	59.8	69.6	0.42	79.0	6.9	54.6	3L		8.79	8.78 Interm to Wall&Hys
811425	YAMHILL HYSLOP	<u>6/</u> SWW	60.6	71.1	0.41	82.3	7.0	55.3	2L		9.07	9.07
811426	LUKE VA66387	<u>6/</u> SWW	62.2	71.6	0.40	82.7	7.9	52.6	4L		8.92	9.02
811427	REW	SWW	61.5	71.5	0.40	83.1	6.8	53.0	2L		8.81	8.79
811428	WA 6242 HYSLOP	SWW	60.7	70.3	0.44	78.9	7.1	54.3	3L		8.72	8.74 Poor Fyeld
811429	WALLDAY	SWS	56.3	67.6	0.44	73.5	7.8	52.6	5L		8.89	8.98 Poor Fyeld

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 7% Protein.

3/ Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 7% Protein.

COMMENTS: In general, the crosses were about intermediate to the parent varieties in milling quality and cookie diameter.



C. R. ROHDE

MORO, OR

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE	RMKS
											<u>1/</u>	<u>2/</u>	<u>3/</u>
811430	STEPHENS	C1017596	SWW	61.1	72.6	0.40	84.0	8.6	50.3	8.68	8.75	3L	
811431	FARO	C1017590	CLUB	61.4	73.1	0.40	86.4	8.0	49.4	8.98	8.98	2L	
811432	DAWS	C1017419	SWW	60.3	70.5	0.40	80.9	8.4	50.7	8.57	8.61	4L	
811433	JACMAR	OR79426/	CLUB	61.4	72.3	0.39	84.3	8.0	50.1	9.24	9.24	2L	Q-CODI
811434		SRW	63.2	71.3	0.39	87.5	8.5	55.1	8.44	8.49	6L		
811435													LOW FYELD
811436		OR7996	SWW	58.4	70.0	0.43	77.4	8.4	50.9	8.71	8.75	6L	
811437		OR71426/	CLUB	61.4	71.1	0.39	83.5	8.4	49.2	8.77	8.80	2L	
811438		OR79566/	SWW	57.5	70.6	0.42	80.1	8.0	50.8	8.78	8.78	3L	Q-FYELD
811439		OR8076/	SWW	62.5	71.0	0.38	82.7	8.4	53.9	8.64	8.68	3L	
		OR7921	SRW	62.5	69.5	0.39	80.1	9.2	54.4	8.42	8.55	3M	LOW FYELD
811440		OR7975/	SWW	61.6	72.3	0.37	86.3	8.0	52.6	8.99	8.99	3L	
811441		OR8024	SWW	60.4	69.4	0.40	78.8	8.3	54.3	8.49	8.52	6L	LOW FYELD
811442		OR77946/	SWW	60.3	71.2	0.40	80.6	8.6	53.4	8.67	8.73	4L	
811443		OR77926/	CLUB	59.6	72.0	0.41	84.9	8.2	52.2	8.82	8.84	3L	Q-FYELD (CLUB)
811444		OR794	CLUB	63.7	70.5	0.39	81.9	8.1	52.7	8.82	8.83	2L	
811445		OR77866/	SWW	59.2	70.5	0.41	80.8	8.6	51.7	8.75	8.82	3L	
811446		OR8013	SWW	58.5	68.8	0.40	76.5	7.4	51.0	8.73	8.67	3L	LOW FYELD

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 8% Protein.  
4/ Observed Values Corrected to 8% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: Note OR7942 and 7921 are red seeded.



NURSCO 53

MORO, OR

C. R. ROHDE

LABNUM	VARIETY	IDNO	CLASS	TWT	FYELD	FASH	MSCOR	FPROT	MABSC	MTYPE	CODI	CODIC	RMKS	4/
														1/
811447	STEPHENS	C1017596	SWW	62.0	75.1	0.45	88.0	8.0	50.9	2L	9.05	9.05		
811448	FARO	C1017590	CLUB	62.4	75.7	0.43	90.3	7.5	50.8	2L	9.11	9.06		
811449	DAWS	C1017419	SWW	62.8	73.6	0.42	87.8	7.9	52.0	3L	8.82	8.81		
811450	FW 75536F701		SWW	63.2	72.9	0.39	88.9	8.1	53.0	3L	9.02	9.04		
811451	FW 75536F702		SWW	62.8	72.9	0.40	88.2	8.1	51.9	3L	8.81	8.82		
811452														
811453		5/ OR813	CLUB	62.4	76.8	0.44	91.1	7.5	49.5	1L	9.16	9.13		
811454		5/ OR814	CLUB	61.6	76.6	0.44	90.6	8.6	51.3	2M	8.92	8.97		
811455		5/ OR815	CLUB	61.6	76.0	0.44	89.6	7.0	50.1	2L	9.34	9.27		
811456		5/ OR816	CLUB	62.4	76.1	0.44	89.7	7.5	50.0	1L	9.17	9.14		
811457		5/ OR818	SWW	62.0	72.7	0.47	84.0	8.2	51.8	3L	8.92	8.95	Q-FYIELD	
811458		6/ OR819	SWW	62.0	73.2	0.47	84.5	7.8	52.2	3L	8.69	8.67	Q-FYIELD	
811459		6/ OR8120	SWW	61.6	72.8	0.43	86.4	8.0	51.8	2M	9.04	9.04		
811460		6/ OR8122	SWW	61.2	72.0	0.48	82.3	8.1	50.9	2L	8.77	8.79	Q-FYIELD	
811461		6/ OR8123	SWW	60.0	74.1	0.46	86.0	8.1	52.7	2L	8.94	8.95		
811462		5/ OR8125	CLUB	61.6	75.4	0.47	87.1	7.7	48.3	1L	9.39	9.37		
811463		5/ OR8126	CLUB	62.0	75.5	0.47	87.6	7.4	49.6	1L	9.21	9.17		
811464		5/ OR8127	CLUB	61.2	74.6	0.47	86.5	8.5	48.9	1L	9.42	9.46		
811465		5/ OR8128	CLUB	62.0	75.4	0.45	88.4	8.0	48.9	1M	9.41	9.41		
811466		6/ OR8129	CLUB	61.2	73.3	0.45	85.9	8.1	49.9	2M	9.07	9.08		
811467		6/ OR8130	CLUB	60.8	72.6	0.46	84.1	8.5	49.9	3M	8.72	8.76	Q-FYIELD	
811468		6/ OR8131	CLUB	62.0	72.9	0.46	84.6	8.7	49.7	2M	9.06	9.11	Q-FYIELD	
811469		5/ OR8132	CLUB	62.0	73.7	0.46	85.5	8.2	49.7	3L	9.21	9.23		
811470		5/ OR8133	CLUB	60.8	74.7	0.43	89.1	7.6	49.7	2L	9.17	9.15		
811471		6/ OR8134	CLUB	60.8	73.3	0.45	85.7	8.7	48.7	2M	9.21	9.26		

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 8% Protein.  
4/ Observed Values Corrected to 8% Protein.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

COMMENTS: There are some excellent common and club wheat lines in this nursery. Those not footnoted as promising are marginal and questionable in flour yield.



NURSCO 54

C. F. KONZAK

LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	CODI	CODIC	MTYPE
												<u>1/</u>
811471	FIELDER -----CONRAD, ID-----	C1017268	5/SWS	62.8	74.0	0.46	86.2	9.8	53.6	9.06	9.04	1H
811472	WWC 80-2		5/SWS	60.8	76.5	0.46	89.0	10.6	58.9	8.87	8.94	3M
811473	FIELDER -----BURLEY, ID-----	C1017268	5/SWS	62.8	73.7	0.44	87.0	9.2	54.9	9.30	9.21	1H
811474	WWC 80-19		5/SWS	62.4	72.2	0.50	81.0	10.5	53.5	8.74	8.79	2H
811475	WWC 9-4		6/SWS	61.6	73.0	0.46	85.0	9.5	54.6	9.27	9.22	2H
811476	WWC 9-2		6/SWS	62.8	74.1	0.45	86.6	9.5	53.4	9.22	9.17	1H

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 10% Protein. 5/ Particularly Promising Overall Quality Characteristics.

3/ Observed Values Corrected to 10% Protein. 6/ Promising Overall Quality Characteristics.

4/ Observed Values Corrected to 10% Protein.  
COMMENTS: These four Western Plant Breeder soft white spring selections appear to be equal or better than Fielder in overall milling and baking characteristics. Selection WWC 80-19 is questionable in milling score due to high flour ash.



NURSCO 55

RS, LIND WA & CORV OR

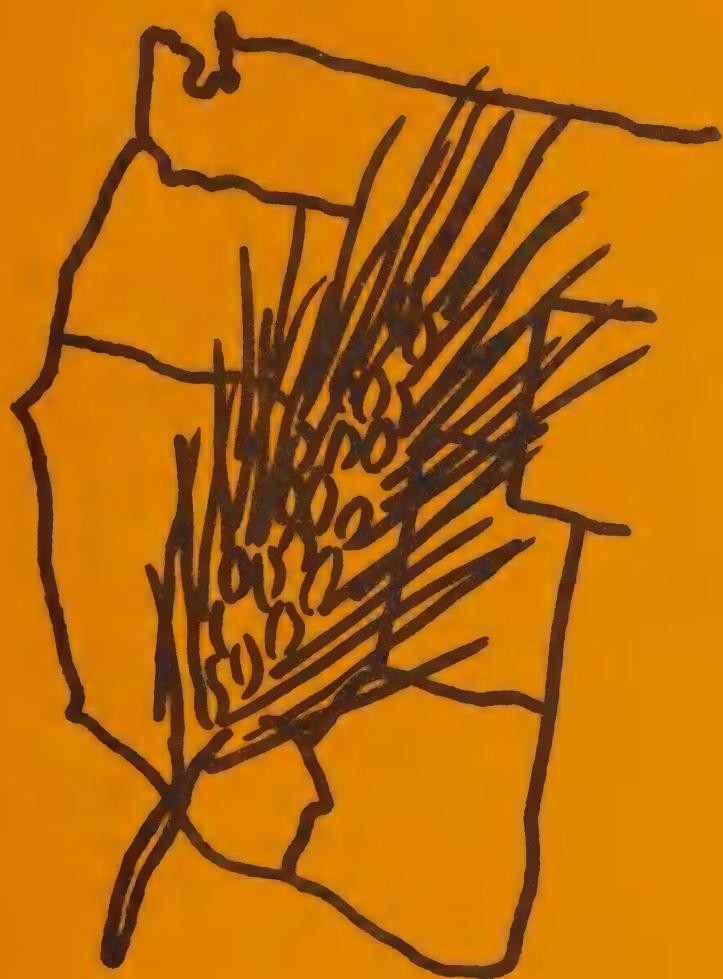
LABNUM	VARIETY	IDNO	CLASS	TWT	FYIELD	FASH	MSCOR	FPROT	MABSC	MTYPE
<u>1/</u>										
811477	MORO (WINTER)--LIND, WA--	C1013072	CLUB	60.0	74.3	0.47	85.2	10.5	55.5	2M
811478	NUGAINES	C1013968	SWW	60.0	74.3	0.43	87.4	10.7	55.0	3M
811479	STEPHENS--CORVALLIS, OR--	C1017569	SWW	60.0	74.3	0.42	87.9	7.6	57.5	2L
811480	HILL	OR68007	SWW	60.0	74.3	0.44	86.9	7.5	57.0	2L
811481	LEWJAIN--LIND, WA--	WA6363	SWW	60.0	74.3	0.38	90.0	9.9	55.6	4M
811482	WA6819	WA6819	SWW	60.0	74.3	0.39	89.2	9.8	57.1	3M
811483	WA6820	WA6820	CLUB	60.0	74.3	0.42	87.8	9.4	55.6	3M
811484	1238A	1238A	CLUB	60.0	74.3	0.45	86.5	10.8	55.9	2M
811485	URQUIE (SPRING)--ROYAL SLOPE, WA--	C1017413	SWS	60.0	74.3	0.46	85.8	9.3	59.9	2M
811486	WAVERLY	C1017911	SWS	60.0	74.3	0.50	84.0	10.0	58.6	2M
811487	WA6826	WA6826	SWS	60.0	74.3	0.46	85.7	9.7	55.4	2M
811488	WA6830	WA6830	SWS	60.0	74.3	0.48	85.0	9.4	54.4	2M
811489	WA6831	WA6831	SWS	60.0	74.3	0.49	84.6	9.5	56.1	2M

LABNUM	VARIETY	IDNO	CLASS	CODI	CODIC	CAVOL	SCSOR	NYELD	NOSCO
<u>4/</u>									
811477	MORO (WINTER)--LIND, WA--	C1013072	CLUB	8.77	8.80	1245	78.0	17	73
811478	NUGAINES	C1013968	SWW	8.42	8.51	1235	78.0	16	74
811479	STEPHENS--CORVALLIS, OR--	C1017569	SWW	9.10	8.84	1305	75.0	16	78
811480	HILL	OR68007	SWW	8.89	8.62	1300	74.0	16	76
811481	LEWJAIN--LIND, WA--	WA6363	SWW	8.81	8.80	1255	78.0	16	70
811482	WA6819	WA6819	SWW	8.59	8.57	1255	75.0	17	75
811483	WA6820	WA6820	CLUB	8.92	8.85	1310	81.0	16	70
811484	1238A	1238A	CLUB	9.01	9.10	1190	70.0	17	72
811485	URQUIE (SPRING)--ROYAL SLOPE, WA--	C1017413	SWS	9.02	8.95	1300	78.0	16	71
811486	WAVERLY	C1017911	SWS	8.74	8.74	1265	72.0	16	74
811487	WA6826	WA6826	SWS	9.24	9.20	1290	78.0	15	70
811488	WA6830	WA6830	SWS	8.91	8.84	1215	73.0	18	79
811489	WA6831	WA6831	SWS	8.89	8.89	1225	71.0	17	77

COMMENTS: The advanced selections submitted for collaborative tests were grown in increase nurseries with the support of the PNW Grain Council. Two bushel samples were pilot milled and sub-samples of the flour were sent to 12 co-operators for their evaluation. See the following 11th Annual Report - 1981 Crop for a list of the collaborators and a summary of their evaluation and comments. In general, all of the experimental selections were found to be acceptable.



# ELEVENTH ANNUAL REPORT - 1981 CROP



## PACIFIC NORTHWEST GRAIN COUNCIL COLLABORATIVE TEST

October 1982

Distributive Report<sup>1/</sup>

1/ Prepared by USDA,ARS Western Wheat Quality Laboratory, Pullman, Washington.

(These are the results of preliminary tests which are not to be used for  
for publication in any form without the consent of the Collaborative  
Committee.)



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## OBJECTIVES AND INTRODUCTION

These collaborative flour tests are supported by the Pacific Northwest Grain Council in cooperation with the USDA, ARS, Western Wheat Quality Laboratory. The purpose is to maintain and improve the milling and baking quality of wheat in the Western Region. It is an attempt to keep current with the needs of wheat processors, both domestic and abroad. The information gained from the data of the domestic and foreign collaborators is of significant value to the wheat breeding programs of the region. The project hopefully provides each collaborator an opportunity to express his opinion as to whether or not the tested selections would satisfy the end-use demands of his industry.

The data and comments included in the individual reports provide the USDA, ARS, Western Wheat Quality Laboratory and plant breeders guidelines for use in the development of future wheat varieties that will best satisfy the needs of the industry.

## ACKNOWLEDGMENTS

We would like to thank each of the Collaborators (listed on Page 2) for their participation in this annual project and also the U.S. Wheat Associates, USA, Inc. for their assistance in arrangements with our valued foreign customers.



## PNWCIA COLLABORATORS

Japanese Milling Association Committee <u>1/</u>	Tokyo, Japan
Dae Han Flour Mills Co., Ltd.	Inchon, Korea
Cheil Sugar Co., Ltd.	Seoul, Korea
Centennial Mills	Portland, Oregon
Fisher Flouring Mills	Seattle, Washington
General Mills, Inc.	Vallejo, California
Mother's Cake & Cookie Co.	Oakland, California
Nabisco, Co.	Fairlawn, N.J.
Cereal Quality Laboratory	Bozeman, Montana
Idaho Wheat Quality Laboratory	Aberdeen, Idaho
Kerr Pacific Milling Corp.	Pendleton, Oregon
Continental Mills, Inc.	Seattle, Washington
Western Wheat Quality Laboratory	Pullman, Washington

1/ Cooperative work by technical members from 4 major flour milling companies in Japan (Nisshin Flour Milling Co., Nippon Flour Mills Co., Showa Sangyo Co., and Nitto Flour Milling Co.) and Japanese Wheat Flour Institute.



1981

## VARIETIES &amp; EXPERIMENTAL SELECTIONS

<u>Sample No.</u>	<u>Selection*</u>	<u>Class</u>	<u>Breeder</u>	<u>Location</u>	<u>Affiliation</u>
1	Moro	Club	G.W. Bruehl	Pullman, WA	Washington State University
2	WA 6820	Club	H.D. Jacquot	Pullman, WA	Private Breeder
3	1238a	Club			
4	Nugaines	SWW			
5	Lewjain	SWW	C.J. Peterson	Pullman, WA	USDA, SEA, AR
6	WA 6819	SWW	G.W. Bruehl	Pullman, WA	Washington State University
7	Stephens	SWW			
8	Hill	SWW	W.E. Kronstad	Corvallis, OR	Oregon State University
9	Urquie	SWS			
10	Waverly	SWS	C.F. Konzak	Pullman, WA	Washington State University
11	WA 6826	SWS	C.F. Konzak	Pullman, WA	Washington State University
12	WA 6830	SWS	C.F. Konzak	Pullman, WA	Washington State University
13	WA 6831	SWS	C.F. Konzak	Pullman, WA	Washington State University

\* See Breeders Report pages 4-9.



## BREEDERS REPORT

Sel. No. WA 6820

1. Wheat Type: Club

2. Background:

- A. Origin - WSU
- B. Derivation - Sel. 291-1/Moro
- C. Contribution - Snowmold Resistance
- D. Years in Tests - 4 years, Bruehl

3. Agronomic Comparisons:

- A. Yield - Slightly better than Sprague
- B. Test Weight - Good for a Club
- C. Maturity - Slightly later than Sprague
- D. Lodging - Slightly better than Sprague
- E. Awn Type - Bearded, brown chaff

4. Disease and Insect Rating:

- A. Stem Rust - Susc.
- B. Leaf Rust - Susc.
- C. Stripe Rust - Resistant
- D. Dwarf Bunt - Susc.
- E. Common Bunt - Susc.
- F. Flag Smut - Susc.
- G. Foot Rot - Susc.



BREEDERS REPORT  
Sel. No. WA 6819

1. Wheat Type: Soft White Common

2. Background:

- A. Origin - WSU, USDA
- B. Derivation - Unknown C. Peterson Club/Sprague
- C. Contribution - Snowmold resistance
- D. Years in Tests - 4 yrs. Bruehl, 2 yrs. Peterson, 1 yr. Regional

3. Agronomic Comparisons:

- A. Yield - Slightly better than Sprague under good conditions
- B. Test Weight - Adequate to slightly below Sprague
- C. Maturity - Slightly later than Sprague
- D. Lodging - Slightly better than Sprague
- E. Awn Type - Awned, white chaff

4. Disease and Insect Rating:

- A. Stem Rust - Susc.
- B. Leaf Rust - Susc.
- C. Stripe Rust - Susc.
- D. Dwarf Bunt - Susc.
- E. Common Bunt - Susc.
- F. Flag Smut - Susc.
- G. Foot Rot - Susc.



BREEDERS REPORT  
Sel. Waverly

1. Wheat Type: SWS

2. Background:

A. Origin - WSU

B. Derivation -

C. Contribution - Disease resistance

D. Years in Tests - about 8

3. Agronomic Comparisons:

A. Yield - Equal to Fieldwin, Dirkwin, Urquie

B. Test Weight - Between Urquie and Dirkwin

C. Maturity - 1 day later than Fielder

D. Lodging - resistant

E. Awn Type - Awned

4. Disease and Insect Rating:

A. Stem Rust - Unk.

B. Leaf Rust - Moderate adult type

C. Stripe Rust - Moderate adult type (general res.) Susc. seedling

D. Dwarf Bunt - Unk.

E. Common Bunt - Unk.

F. Flag Smut - Unk.

G. Foot Rot -



BREEDERS REPORT  
Sel. No. WA 6826

1. Wheat Type: SWS
2. Background:
  - A. Origin - WSU
  - B. Derivation - Potam 70/Wa 6021
  - C. Contribution - Disease resistant plus 10-15% higher yield
  - D. Years in Tests - 3 locations in WA in 1982, 2 in W. Region, Emergency release
3. Agronomic Comparisons:
  - A. Yield - 10-15% above current cultivars
  - B. Test Weight - Equal to Urquie
  - C. Maturity - Equal to Fielder
  - D. Lodging - Good, but slightly weaker than WA 6830, WA 6831, particularly under irrigation.
  - E. Awn Type - Awned
4. Disease and Insect Rating:
  - A. Stem Rust - Unk.
  - B. Leaf Rust - Adult high res.
  - C. Stripe Rust - Adult high res., Susc. seedling, but better than Waverly.
  - D. Dwarf Bunt - Unk.
  - E. Common Bunt - Unk.
  - F. Flag Smut - Unk.
  - G. Foot Rot - Unk.
  - H. Hessian Fly - Susc.
5. Other Information:

A likely candidate; WA 6826 was top in 16 tests of the Western Regional Nursery in 1981.



BREEDERS REPORT  
Sel. No. WA 6830

1. Wheat Type: SWS
2. Background:
  - A. Origin - WSU
  - B. Derivation - Potam 70/WA 6021
  - C. Contribution - Disease resistance, yield
  - D. Years in Tests - 3 locations in WA in 1982, 2 in W. Reg., Emergency release
3. Agronomic Comparisons:
  - A. Yield - 10% above current
  - B. Test Weight - Equal to Urquie
  - C. Maturity - With Fielder
  - D. Lodging - good Resistance
  - E. Awn Type - Awned
4. Disease and Insect Rating:
  - A. Stem Rust - Unk.
  - B. Leaf Rust - Adult high general resistance
  - C. Stripe Rust - Adult high general resistance
  - D. Dwarf Bunt - Unk.
  - E. Common Bunt - Unk.
  - F. Flag Smut - Unk.
  - G. Foot Rot - Unk.
  - H. Hessian Fly - Susc.



## BREEDERS REPORT

Sel. No. WA 6831

1. Wheat Type: SWS

2. Background:

A. Origin - WSU

B. Derivation - Potam 70/WA 6021

C. Contribution - Disease Resistance, yield

D. Years in Tests - 3 locations in WA in 1982, 2 in W. Reg., emergency basis  
for release consideration.

3. Agronomic Comparisons:

A. Yield - 10-15% above current cultivars

B. Test Weight - equal to Urquie &amp; Fielder w/o rust

C. Maturity - about equal to Fielder

D. Lodging - Good Resistance

E. Awn Type - Awned

4. Disease and Insect Rating:

A. Stem Rust - Unk.

B. Leaf Rust - High adult general resistance, Susc. seedling

C. Stripe Rust - High adult general res., Susc. seedling. Resistance starts  
earlier than in Waverly and different genetic base.

D. Dwarf Bunt - Unk.

E. Common Bunt - Unk.

F. Flag Smut - Unk.

G. Foot Rot - Unk.

5. Other Information:

One of the likely candidates as WA 6831 ranked 9th in Western Regional Nursery  
in 1981 and was top in Washington locations.



Wheat Cleaning and Milling Procedure for the Miag Multomat Mill

When wheat arrives, it is stored in 5-bu. steel bins as cleaned. The cleaning process consists of using a Clipper cleaner followed by a Carter Disc Separator and a Forester Grain Scourer.

To condition the wheat for milling, the proper temper or moisture level is attained by the addition of water. A mixer having a 3-bu. capacity is used for this operation. The first temper (13.5 - 14.5% moisture for soft wheat and 15.5 - 16.5% moisture for hard wheat) is added 18 to 24 hours before the milling process. Fifteen to twenty minutes prior to milling, the wheat is given a second temper by the addition of 0.5% water based on wheat weight.

Approximately 120-pound sub-samples of each variety are tempered for milling. The feed rate is adjusted to give the proper load to the mill. Soft common wheats are milled at a rate of 800-900 gms/min., white club wheats at 900-1000 gms/min., and hard wheats at a rate of 850-950 gms/min.

Adjustment of the break rolls is done by setting the rolls to give a uniform break release from sample to sample. The 1st break roll is adjusted so that about 43% of the stream passes through a No. 24 Tyler (707 micron) wire screen in one minute of sifting. The 2nd break roll is adjusted so that about 64% of the screen passes through the No. 24 Tyler wire screen in one minute. The 3rd break roll is adjusted to clean the bran as completely as possible without excessive shattering. The adjustment for reduction rolls is done by observation of stock with the objective of grinding and making as much flour possible at each pass but not to the point of overgrinding and flaking the stock.



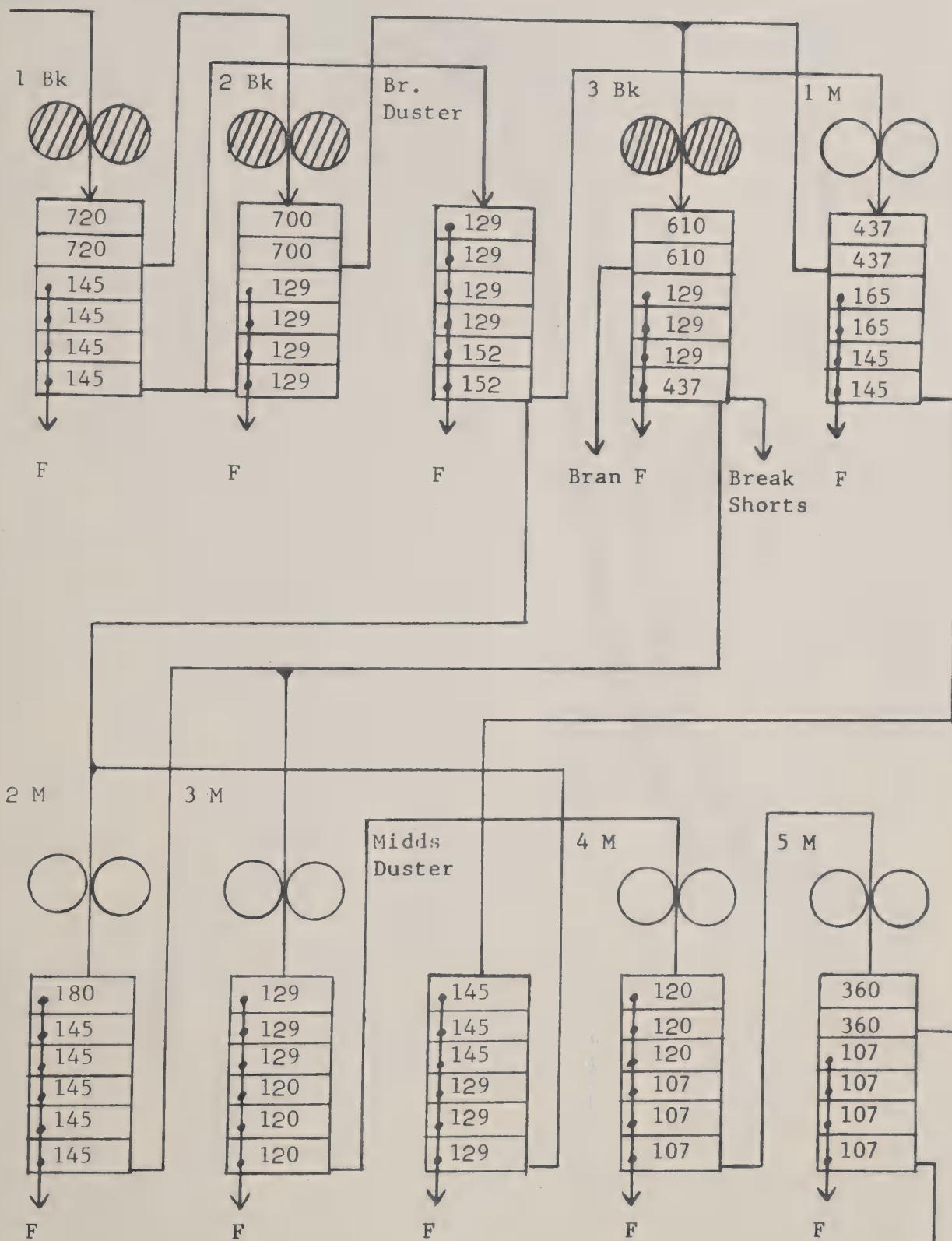
Each of the flour streams are sampled, weighed, and analyzed for moisture and ash. Cumulative ash curves are plotted for each sample milled. The ten flour streams are blended together using a horizontal ribbon blender to give a straight grade flour which is used for baking, analytical and physical-dough testing.

The schematic flow sheet of the mill, showing rolls and flour screens used is on Page 12. Stream samples were collected and flour ash determined to develop ash curves shown on Pages 13-16.



## FLOW SHEET WWQL MIAG MULTOMAT

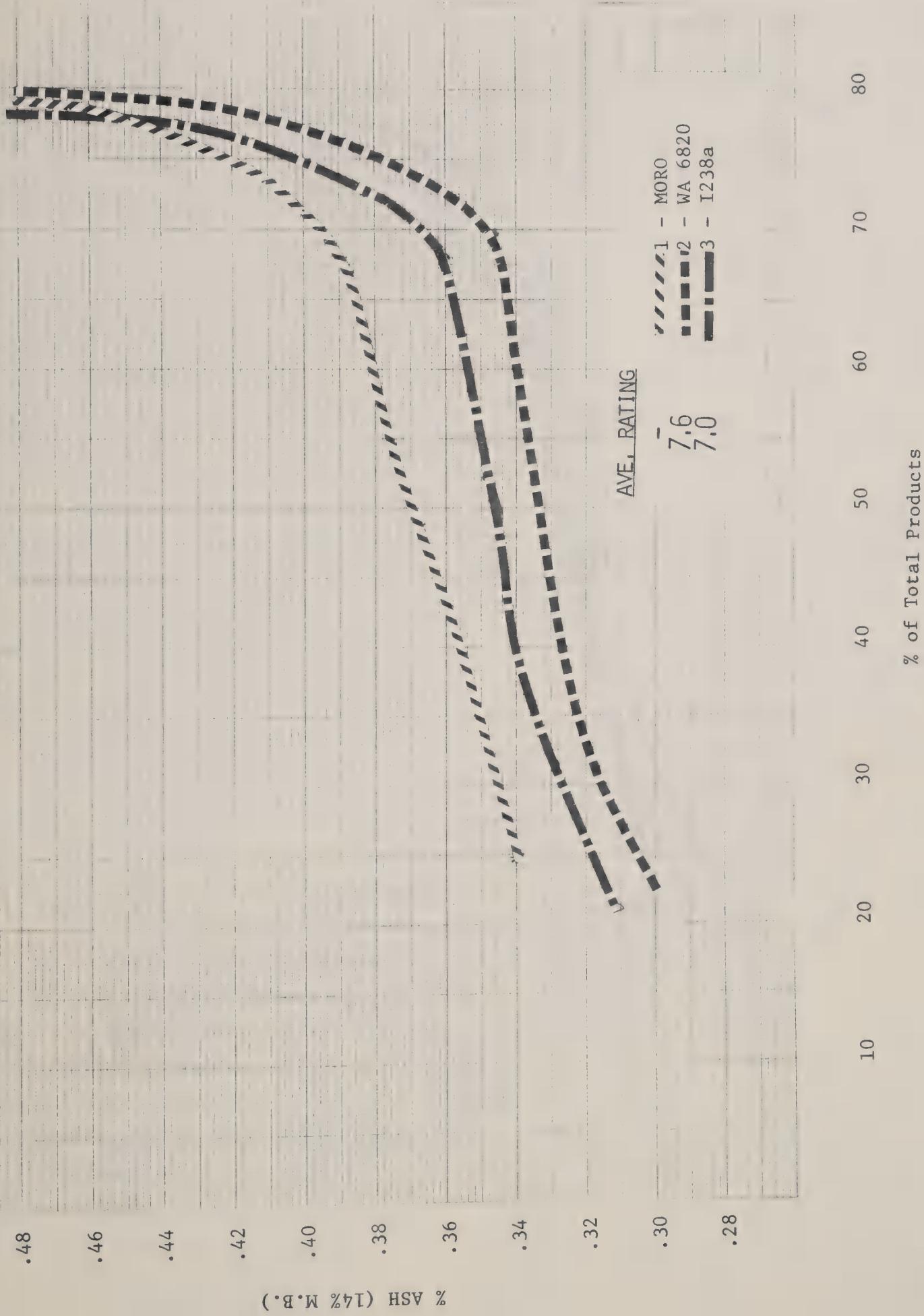
Tempered Wheat



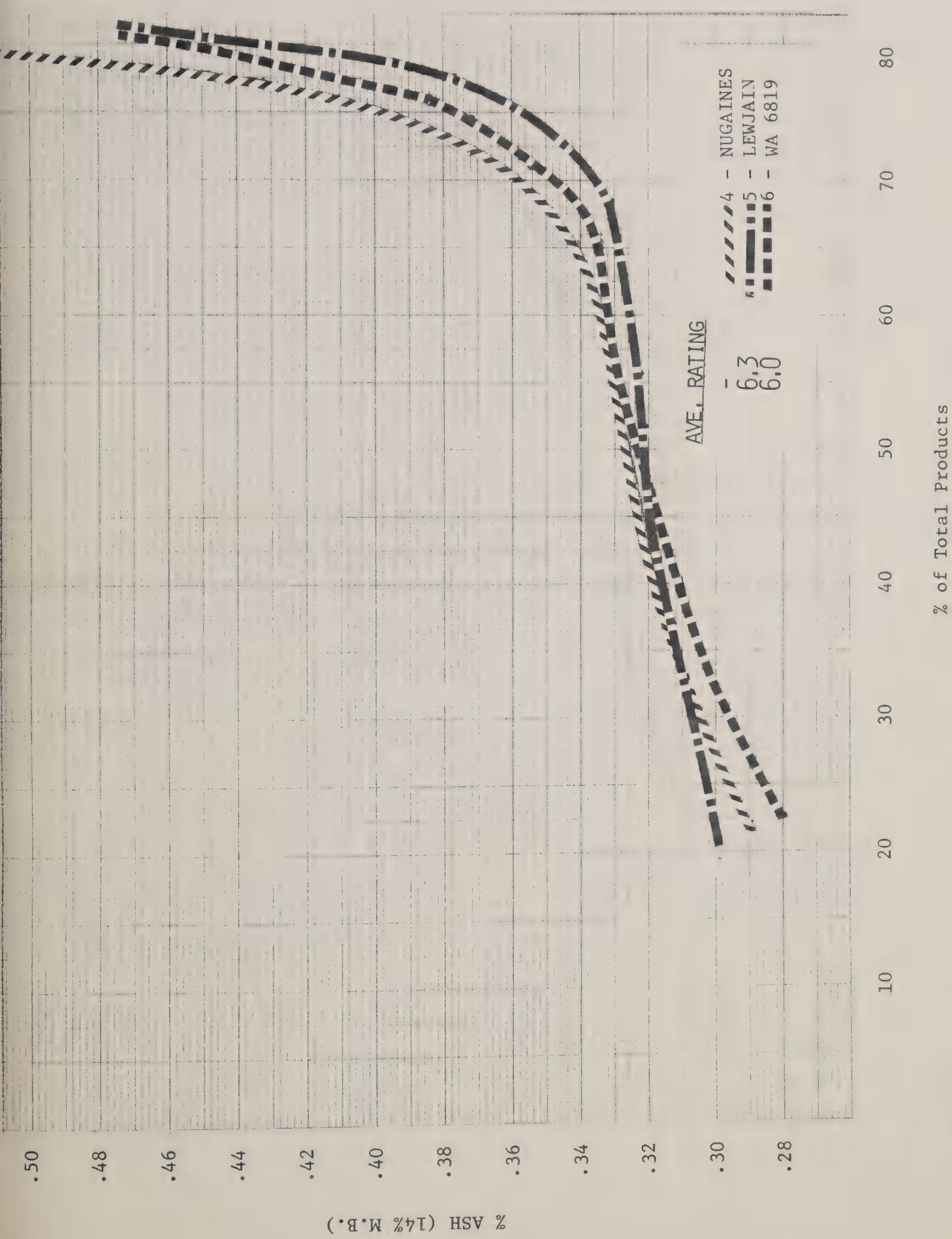
Note: Sieve Cloth Openings in Microns.

Red Red  
Dog Shorts

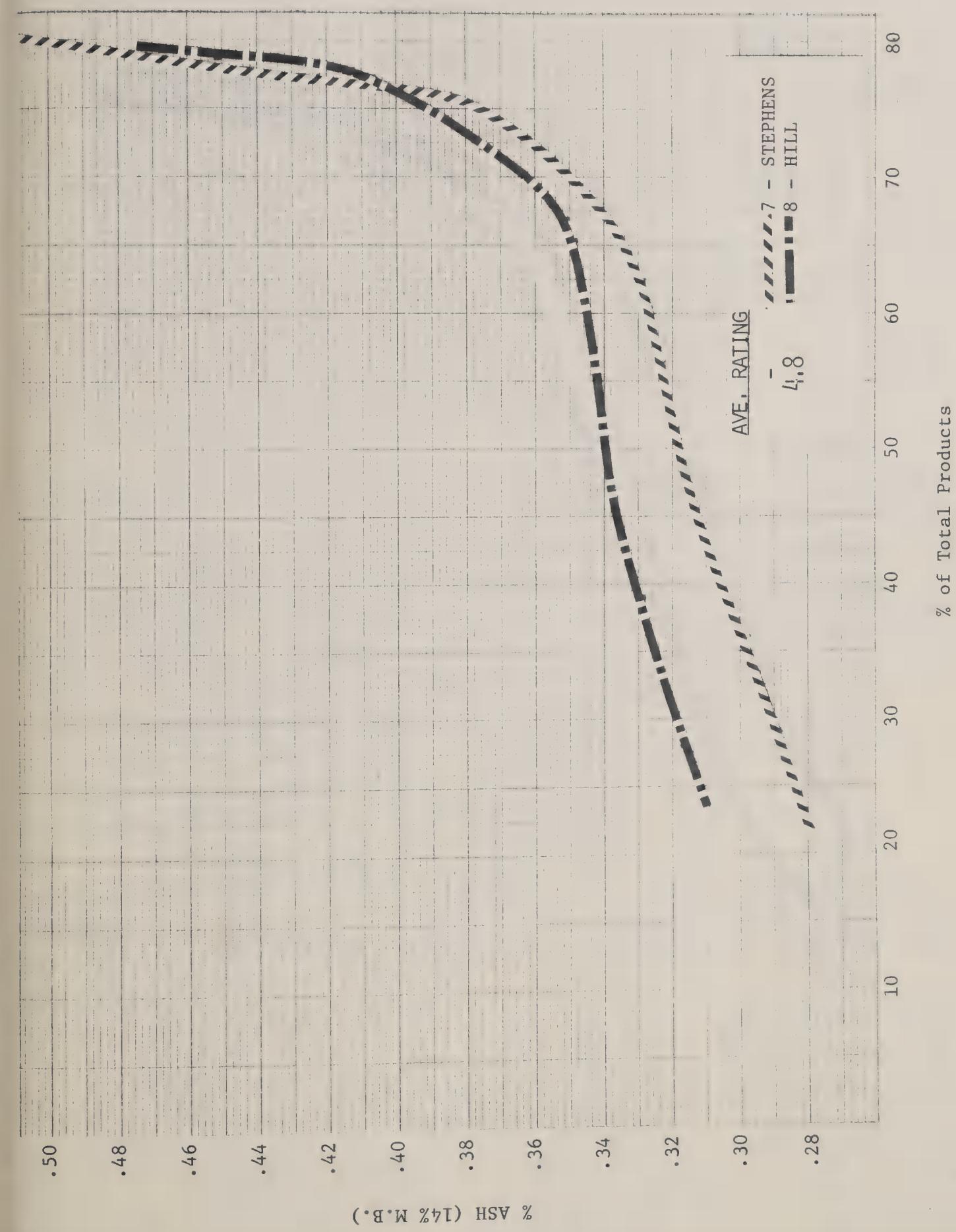




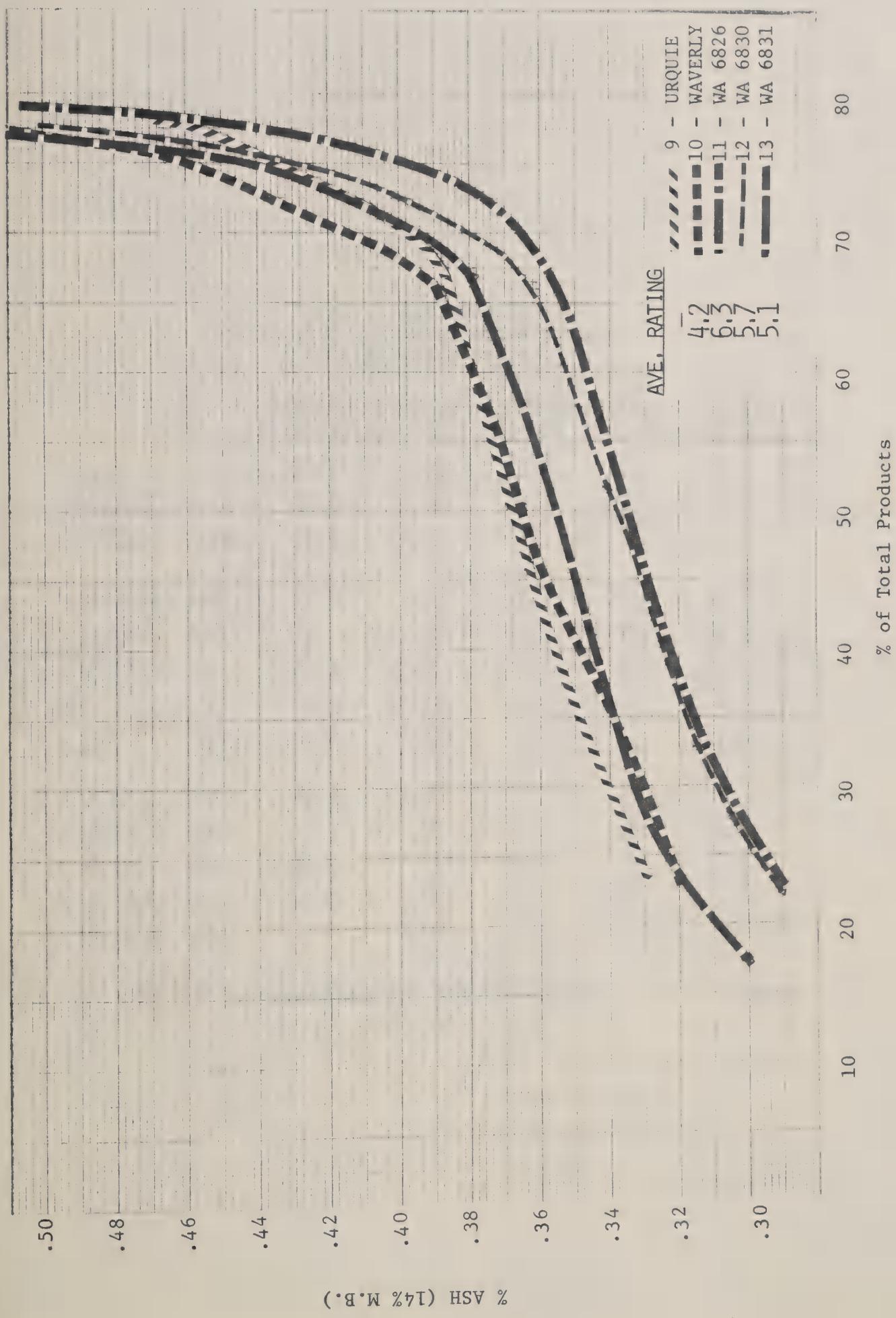














SUMMARY MILLING DATA  
1981 PACIFIC NORTHWEST GRAIN COUNCIL  
COLLABORATIVE TESTS

			<u>STRAIGHT GRADE</u>	<u>POUNDS FLOUR</u>	<u>AVERAGE MILLING RATING</u>		
				<u>FLOUR YIELD</u>	<u>ASH*</u>	<u>.45 ASH</u>	<u>.40 ASH</u>
1	MORO	CLUB	79.7	.49	77	72	-
2	WA 6820	CLUB	79.4	.45	79	77	7.6
3	I238A	CLUB	78.1	.46	77	75	7.0
4	NUGAINES	SWW	77.0	.43	77	75	-
5	LEWJAIN	SWW	78.6	.39	80	79	6.3
6	WA 6819	SWW	76.1	.40	79	77	6.0
7	STEPHENS	SWW	77.9	.42	78	76	-
8	HILL	SWW	78.5	.44	79	76	4.8
9	URQUIE	SWS	77.1	.45	77	71	-
10	WAVERLY	SWS	77.1	.50	74	68	4.2
11	WA 6826	SWS	78.6	.48	78	75	6.3
12	WA 6830	SWS	76.6	.46	76	73	5.7
13	WA 6831	SWS	77.3	.50	75	71	5.1

\* ASH (14% M.B.) FROM CUMULATIVE STREAM ANALYSIS.



PACIFIC NORTHWEST CROP IMPROVEMENT ASSOCIATION  
SOFT & HARD WHEAT FLOUR QUALITY COLLABORATIVE REPORT

INSTRUCTIONS

Express your rating relative to the control in the summaries, as well as in the flour characteristics and baking properties by the following scales:

- 9 - much more preferable
- 7 - significantly more preferable
- 6 - slightly more preferable
- 5 - equal to the control
- 4 - slightly less preferable
- 3 - significantly less preferable
- 1 - much less preferable

Exercise care in differentiating between small differences and reproducible differences based on your best judgment. Differences between ratings 4 & 5 and 5 & 6 indicate differences that may not be significant.

Use the testing and baking methods customarily used in your laboratory. Complete the baking method description sheet and return it with the other reports. Include as part of your report any original farinograph, mixograph, and amylograph curves you have run. If you think there are additional factors that should be evaluated, do so; describe them and give your results in a manner similar to the other results requested in these forms.

Please return one copy of each report to the Western Wheat Quality Laboratory and retain another copy for your files. Upon receipt of results from all collaborators, a summary of the data will be made and copies sent to each participating laboratory.



COLLABORATIVE NO. \_\_\_\_\_

## PACIFIC NORTHWEST CROP IMPROVEMENT ASSOCIATION

## SOFT WHEAT FLOUR QUALITY COLLABORATIVE REPORT

Sample code # or variety \_\_\_\_\_ Date sample Received \_\_\_\_\_

Market Class \_\_\_\_\_ Tested \_\_\_\_\_

Flour Characteristics	Rating <u>2/</u>	Flour Characteristics	Rating <u>2/</u>
Protein _____ % <u>1/</u>	_____	Viscosity _____ °Mac	_____
Ash _____ % <u>1/</u>	_____	Sedimentation _____ ml	_____
Moisture _____ %	_____	Cookie Diameter _____ cm	_____
Farinograph or Mixograph		Spread Factor _____ %	_____
Absorption _____ % <u>1/</u>	_____	Falling Number _____ sec.	_____
Peak _____ % min.	_____	Max. amyl. vis. <u>3/</u> _____ B.U.	_____
Stability _____ % min.	_____	Cake Score _____	_____
Area under the Curve _____ % cm <sup>2</sup>	_____	Noodle Score _____	_____

1/ Corrected to 14% Moisture Basis.2/ Rating by the number system outlined in instructions.3/ Maximum amylograph viscosity.



Code and Sample No.	Collab.	Milling No.	Flr. Rating	Flr. Prot.	Faringraph Abs.	Falling Stab.	Amyl. Val.	Mac. Visc.	Falling Factor	Cookie Spread No.	Udon Pancake	Sponge Noodle	Overall Rating	Baking <sub>1</sub> Rating
#1 Moro	Mean( $\bar{x}$ )	-	-	-	-	-	-	-	-	-	-	-	-	5.00
#2 WA6820	2	7	7	5	-	-	-	6	5	-	5	5	-	-
	3	-	3	6	-	-	-	3	3	-	6	6	-	-
	4	7	7	4	5	5	-	7	5	-	7	7	-	-
	5	8	5	4	-	-	-	7	4	5	5	5	-	-
	6	7	6	5	5	5	-	-	-	6	-	-	-	-
	7	9	7	7	6	6	-	-	-	6	-	-	-	-
	8	-	7	5	6	5	4	-	-	6	-	-	-	-
	9	-	6	7	4	6	7	-	7	5	5	7	-	-
	10	-	4	7	6	-	6	-	-	4	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	7	6	5	5	-	-	-	5	-	-	-	-
	13	8	5	6	5	5	-	-	5	5	4	5	5	-
Mean( $\bar{x}$ )	7.6	(5.8)	(6.3)	(5.1)	(5.3)	(5.3)	(6.0)	(4.5)	(5.0)	(5.4)	(5.7)	(5.0)	(5.5)	(5.37)
#3 I238a	2	6	5	5	-	-	-	3	5	-	5	4	-	-
	3	-	7	6	-	-	-	7	3	-	5	6	-	-
	4	7	5	7	4	5	5	-	4	5	-	6	7	-
	5	7	4	4	-	-	-	-	-	-	5	-	-	-
	6	8	5	5	6	5	5	-	4	4	6	5	-	-
	7	7	6	7	6	5	-	-	-	5	-	6	-	-
	8	-	5	5	6	5	5	-	-	5	-	6	-	-
	9	-	5	7	6	6	6	-	4	5	5	7	-	-
	10	-	7	7	-	-	-	-	-	6	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	-	5	-	-
	12	-	5	5	5	5	-	-	-	5	5	5	-	-
	13	7	5	5	5	-	-	-	-	6	-	5	5	-
Mean( $\bar{x}$ )	7.0	(5.4)	(5.7)	(5.6)	(5.1)	(5.2)	(4.4)	(4.5)	(5.4)	(5.4)	(5.7)	(5.0)	(5.0)	(5.14)

INDIVIDUAL COLLABORATORS' RATING  
SOFT WHITE WINTER

#4 Nugaines	Mean( $\bar{x}$ )	-	-	-	-	-	-	-	-	-	-	-	-	5.00
#5 LewJain	2	5	6	5	-	-	-	5	5	-	7	6	-	-
	3	-	4	3	-	-	-	4	3	-	4	4	-	-
	4	6	6	5	7	4	4	-	6	5	-	7	7	-
	5	7	6	7	-	-	-	-	-	-	5	3	-	-
	6	6	6	7	3	5	5	-	6	5	-	7	-	-
	7	7	5	5	6	4	-	-	-	5	-	5	-	-
	8	-	6	8	3	4	3	-	-	5	-	-	-	-
	9	-	6	7	6	5	7	-	7	5	7	7	-	-
	10	-	5	6	6	-	6	-	-	5	-	6	-	-
	11	-	-	-	-	-	-	-	-	-	-	6	-	-
	12	-	6	6	6	5	5	-	-	5	5	-	5	6
	13	7	5	6	5	5	-	-	-	6	-	6	5	-
Mean( $\bar{x}$ )	6.3	(5.5)	(5.9)	(5.3)	(4.6)	(5.0)	(5.6)	(4.8)	(5.0)	(5.0)	(5.9)	(5.3)	(6.0)	(5.34)

1/ Average of factors except milling rating.



INDIVIDUAL COLLABORATORS' RATING  
SOFT WHITE WINTER

Code and Sample No.	Collab. No.	Milling Rating	Flr. Prot.	Flr. Ash	Farinograph		Mac. Abs.	Falling Amyl. Visc.	Cookie Factor	Udon Dia.	Sponge Noodle	Overall Rating	Overall Baking <sup>1/</sup> Rating
					Stab.	Val.							
#6 WA6819	2	5	6	5	-	-	6	5	-	6	4	-	-
	3	-	3	3	-	-	3	3	-	4	4	-	-
	4	5	6	5	7	5	6	5	-	7	7	-	-
	5	6	6	7	-	-	-	-	-	6	-	-	-
	6	7	6	7	3	4	-	7	7	5	5	-	-
	7	7	5	7	6	4	-	-	-	7	-	-	-
	8	-	7	7	3	5	-	-	-	-	-	-	-
	9	-	6	6	5	5	-	6	5	6	7	-	-
	10	-	5	9	4	-	5	-	5	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	6	-	-
	12	-	7	6	6	5	5	-	6	5	-	5	-
	13	6	5	6	5	-	-	-	5	5	-	5	-
Mean( $\bar{x}$ )	6.0	(5.9)	(6.9)	(5.0)	(4.7)	(5.0)	(5.6)	(5.2)	(5.0)	(5.7)	(5.3)	(5.0)	(5.41)

#7 Stephens	Mean( $\bar{x}$ )	-	-	-	-	-	-	-	-	-	-	-	-
#8 Hill	2	5	5	-	-	-	-	4	5	-	5	5	-
	3	-	3	5	-	-	-	3	3	-	4	6	-
	4	5	5	5	5	5	-	5	5	-	5	5	-
	5	5	5	5	-	-	-	-	-	6	-	-	-
	6	4	5	7	4	5	-	5	4	5	5	5	-
	7	5	5	4	6	4	-	-	-	4	-	-	-
	8	-	5	5	5	5	-	-	-	5	-	-	-
	9	-	5	5	5	5	-	4	5	5	4	-	-
	10	-	4	4	6	-	-	-	-	5	-	-	-
	11	-	-	-	-	-	-	-	-	-	5	-	-
	12	-	5	5	5	5	-	-	5	5	-	5	-
	13	5	5	5	5	-	-	-	5	-	4	5	-
Mean( $\bar{x}$ )	4.8	(4.7)	(5.0)	(5.1)	(4.9)	(4.8)	(4.2)	(4.5)	(5.0)	(4.9)	(5.0)	(5.0)	(4.80)

21

#9 Urquie	Mean( $\bar{x}$ )	-	-	-	-	-	-	-	-	-	-	-	-
#10 Waverly	2	4	4	3	-	-	-	6	5	-	4	4	-
	3	-	6	6	-	-	-	4	3	-	5	6	-
	4	5	4	4	4	-	5	-	5	-	4	4	-
	5	4	4	4	-	-	-	5	5	-	5	5	-
	6	4	4	3	6	5	4	-	6	5	5	5	-
	7	4	4	3	4	4	-	-	-	4	-	-	-
	8	-	6	6	6	5	5	-	-	6	-	-	-
	9	-	4	4	4	5	6	-	4	5	5	4	-
	10	-	7	4	4	-	-	5	-	4	-	-	-
	11	-	-	-	-	-	-	-	-	-	5	-	-
	12	-	3	4	5	-	-	-	-	5	5	5	-
	13	4	5	4	5	-	-	-	-	5	5	4	-
Mean( $\bar{x}$ )	4.2	(4.6)	(4.1)	(4.8)	(4.9)	(5.0)	(4.6)	(4.8)	(5.0)	(4.7)	(4.7)	(5.0)	(4.75)

1/ Average of factors except milling rating.



INDIVIDUAL COLLABORATORS' RATING  
SOFT WHITE SPRING

Code and Sample No.	Collab. No.	Milling Rating	Flr. Prot.	Flr. Ash	Farinograph Abs.	Peak Stab.	Val.	Visc.	Mac. No.	Falling Amyl.	Cookie Factor	Spread Dia.	Noodle Visc.	Overall Rating	Udon Rating	Sponge Rating	Overall Baking <sub>1</sub> / Rating <sub>1</sub>
#11 WA6826	2	6	5	5	-	-	-	-	4	5	-	5	5	-	-	-	-
	3	-	4	4	-	-	-	-	6	7	-	4	4	-	-	-	-
	4	5	5	5	5	-	-	-	5	5	-	5	5	-	-	-	-
	5	7	4	5	5	-	-	-	5	5	-	5	5	-	-	-	-
	6	7	5	5	5	-	-	-	5	6	-	5	5	-	-	-	-
	7	6	4	5	7	4	-	-	-	-	6	-	-	-	-	-	-
	8	-	6	5	4	5	5	-	-	4	-	-	-	-	-	-	-
	9	-	5	5	4	5	5	-	5	5	5	4	-	-	-	-	-
	10	-	6	4	3	-	-	-	-	6	-	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	5	5	5	5	-	-	5	5	5	5	5	-	-	-	-
	13	7	5	5	5	5	-	-	-	-	6	6	5	5	-	-	-
	Mean( $\bar{x}$ )	6.3	(4.9)	(4.8)	(4.8)	(4.9)	(5.2)	(4.9)	(5.0)	(5.0)	(5.5)	(5.0)	(5.1)	(4.8)	(4.5)	(5.0)	(4.96)
#12 WA6830	2	6	5	4	-	-	-	-	4	5	-	3	4	-	-	-	-
	3	-	4	4	-	-	-	-	7	3	-	5	2	-	-	-	-
	4	5	5	5	5	5	-	-	4	5	-	5	4	-	-	-	-
	5	6	4	4	-	-	-	-	-	-	-	5	-	-	-	-	-
	6	6	5	5	6	5	5	-	3	6	7	4	4	-	-	-	-
	7	5	5	3	5	5	5	-	-	-	4	-	-	-	-	-	-
	8	-	7	4	5	5	5	-	-	3	-	-	-	-	-	-	-
	9	-	5	5	4	5	5	-	7	5	5	4	4	-	-	-	-
	10	-	6	4	3	-	-	-	-	9	-	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	5	5	5	5	-	-	5	6	5	5	5	-	-	-	-
	13	6	5	5	5	5	-	-	-	5	6	5	5	-	-	-	-
	Mean( $\bar{x}$ )	5.7	(5.1)	(4.3)	(4.8)	(5.0)	(5.0)	(5.0)	(5.0)	(4.8)	(6.0)	(4.7)	(3.8)	(4.5)	(6.0)	(4.5)	(4.89)
#13 WA6831	2	6	5	3	-	-	-	-	3	5	-	5	4	-	-	-	-
	3	-	4	4	-	-	-	-	6	3	-	4	5	-	-	-	-
	4	5	5	4	5	5	-	-	5	5	-	4	4	-	-	-	-
	5	4	4	4	-	-	-	-	-	-	-	5	-	-	-	-	-
	6	4.5	5	4	6	5	5	-	3	6	6	4	4	-	-	-	-
	7	5	4	3	6	6	6	-	-	-	4	-	-	-	-	-	-
	8	-	6	4	7	5	6	-	-	-	3	-	-	-	-	-	-
	9	-	5	5	4	5	4	-	4	5	5	5	6	-	-	-	-
	10	-	5	3	4	-	-	-	6	-	7	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-
	12	-	5	4	5	5	-	-	-	5	6	5	5	-	-	6	5
	13	5	5	6	5	-	-	-	-	5	6	5	5	-	-	6	4
	Mean( $\bar{x}$ )	5.1	(4.8)	(3.9)	(5.4)	(5.1)	(5.2)	(4.2)	(4.8)	(4.8)	(5.4)	(4.6)	(4.7)	(5.0)	(6.0)	(4.5)	(4.89)

1/ Average of factors except milling rating.



MEAN OF COLLABORATORS' RATING  
SOFT WHEATS

Sample No.	Variety or Selection	Absorption	Viscosity		Cookie Diameter		Pancake		Udon Noodle		Sponge Cake	
			$\bar{X}$	Range	$\bar{X}$	Range	$\bar{X}$	Range	$\bar{X}$	Range	$\bar{X}$	Range
<b>CLUB</b>												
01	Moro	-	-	-	-	-	-	-	-	-	-	-
02	WA 6820	5.1	4-6	6.0	3-7	5.5	5-7	5.0	5-5	5.0	5-5	5.00
03	1238a	5.6	4-7	4.4	4-7	5.4	5-7	5.0	5-5	5.0	5-5	5.33
<b>SWW</b>												
04	Nugaines	-	-	-	-	-	-	-	-	-	-	-
05	Lewjain	5.3	3-7	5.6	4-7	5.9	4-7	6.0	6-6	5.0	5-5	5.55
06	WA 6819	5.8	3-7	5.6	3-7	5.7	4-7	6.0	6-6	5.0	5-5	5.38
<b>SWW</b>												
07	Stephens	-	-	-	-	-	-	-	-	-	-	-
08	Hill	5.1	4-6	4.2	3-5	4.9	4-6	4.5	4-5	5.0	5-5	5.00
<b>SWS</b>												
09	Urquie	-	-	-	-	-	-	-	-	-	-	-
10	Waverly	4.8	4-6	4.6	4-6	4.7	4-5	5.0	5-5	5.0	5-5	4.77
11	WA 6826	4.8	3-7	5.0	4-6	5.1	4-6	4.5	4-5	5.0	5-5	4.90
12	WA 6830	4.8	3-6	5.0	3-7	4.7	3-5	4.5	4-5	6.0	6-6	4.92
13	WA 6831	5.4	4-7	4.2	3-6	4.6	4-5	5.0	5-5	6.0	6-6	4.95

1/ Average of all factors, with equal weight of importance to each.



BRIEF COMMENTS RECEIVEDSample

#01 - Moro (Check for samples #2 and #3).  
 - Relative small kernels.  
 - High protein content.  
 - Good low grain ash.  
 - Good milling properties.  
 - Good flour color.  
 - Raw noodle strings were very sticky.

#02 - WA 6820  
 - Very low grain ash.  
 - Eating quality of noodle and baking quality of sponge cake and cookie were a little better than Control #1.  
 - Good milling properties.  
 - Low cookie diameter.  
 - Higher viscosity.

#03 - I238a  
 - High protein content.  
 - Good low grain ash.  
 - Noodle color was little darker than #1.  
 - Gave slightly better cake and cookie than #1.

Club Wheat Ranking: #3 > #2 > #1

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#04 - Nugaines (Check for samples #5 and #6)  
 - High protein.  
 - Relatively high water absorption.  
 - Low grain ash.  
 - High Falling Number of flour.

#05 - Lewjain  
 - Low Grain ash.  
 - A little better noodle than #4.  
 - A little better cake and cookie as compared to #4.

#06 - WA 6819  
 - Very low grain ash.  
 - High Falling Number of flour (low  $\alpha$ -amylase activity).  
 - Good low viscosity.  
 - Good cookie diameter.  
 - Good Cake and Cookie nearly equal to #4.

SWW Wheat Ranking: #6 > #5 > #4



#07 - Stephens (Check for sample #8)  
 - Very large kernels.  
 - Good flour color.  
 - Raw noodle had a tendency to tear off.  
 - High cooking loss in noodle test.  
 - Gave sticky noodle with poor mastication.  
 - Remarkably good cake and cookie.

#08 - Hill  
 - Large plump kernels, but a little smaller than #7.  
 - Good milling quality.  
 - Very good flour color.  
 - Gave very good sponge cake and cookie.  
 - Noodle quality was similar to Control.

SWW (Stephens series) Wheat Ranking: #8 > #7

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#09 - Urquie (Check for samples #10-#13).  
 - Many amber colored grains.  
 - Yellowish flour color.  
 - Gave appreciably good noodle.  
 - Poor top grain on cookies.

#10 - Waverly  
 - Greyish pale-yellow grain mixed with mottled grain.  
 - High grain ash.  
 - Good flour color.  
 - Noodle quality near #9, but much whiter in color.  
 - Cake and cookie slightly inferior to #9.

#11 - WA 6826  
 - Relatively large size kernels.  
 - Good milling quality.  
 - Good flour color.  
 - Noodle was very similar to #10.  
 - Gave better cake and cookie than #9.

#12 - WA 6830  
 - Relatively large in kernel size.  
 - Good noodle making and better eating than #9.  
 - Gave a slightly better cake and cookie than #9.

#13 - WA 6831  
 - Relatively large size kernel.  
 - Good flour color.  
 - Gave the best noodle of SWS group.  
 - Somewhat heavy sponge cake.  
 - Cookie was slightly inferior to #9.

SWS Wheat Ranking: #13 > #12 > #9 = #10 = #11







PULLMAN, WA

R.E. ALLAN

LABNUM	VARIETY	IDNO	CLASS	TWT	FYLD	FASH	MSCOR	MABSC	MTYPE	AWRC	CODI	CODIC	RMKS
<u>4/</u>													
811490	NUGAINES	H36	SWW	61.2	0.35	76.8	10.7	59.3	3M	64.0	8.46	8.66 A typical mill	
811491	LUKE	H37	SWW	74.0	0.41	89.1	7.1	55.5	2L	58.0	9.36	9.20	
811492	SEL. 101	H38	SWW	72.5	0.43	86.2	7.9	54.7	3L	61.0	8.95	8.83	
811493	DAWS	H40	SWW	72.6	0.46	84.2	7.8	53.7	2L	63.0	8.74	8.61	
811494		<u>6/</u> H1	SWW	74.5	0.42	89.3	7.7	57.3	3L	60.0	9.06	8.91	
811495		H5	HWW	74.4	0.44	87.3	9.2	56.8	1M	63.0	8.86	8.87 P-MTYPE	
811496		<u>6/</u> H8	SWW	70.6	0.40	86.3	9.4	54.9	3L	60.0	8.88	8.93	
811497		H12	HRW	69.3	0.35	86.3	9.3	57.9	3M	66.0	8.52	8.55 P-FYIELD&CODI	
811498		H17	HRW	70.1	0.42	83.6	9.8	56.3	4M	70.0	8.39	8.45 P-FYIELD&CODI	
811499		H19	HWW	73.6	0.46	85.4	8.1	53.8	2M	68.0	8.64	8.57 P-MTYPE	
811500		<u>5/</u> H23	SWW	73.2	0.40	89.0	10.7	56.3	1H	57.0	9.01	9.19	
811501		<u>6/</u> H26	SWW	73.8	0.46	85.7	8.5	54.5	3L	56.0	9.07	9.02	
811502		<u>6/</u> H30	SWW	72.9	0.39	89.1	9.9	56.6	2M	58.0	8.85	8.95	

1/ Observed Values Corrected to 14% Moisture Basis.  
3/ Absorption at 14% Moisture Corrected to 9% Protein.  
4/ Observed Values Corrected to 9% Protein.

COMMENTS: H1 - Good Overall pastry quality.

H5 - Hard endosperm, but pastry type quality.

H8 - Fair overall pastry quality.

H12 & H17 - Low flour yield and poor cookie - maybe a good bread type.

H19 - Hard endosperm with low water absorption and short mixing - poor bread potential.

H23 - Very good overall pastry quality.

H26 & H30 - Good overall pastry quality.

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.



NURSCO 57

D. F. SUNDERMAN

ABERDEEN, ID

LABNUM	VARIETY	IDNO	CLASS	FMIST	FASH	FPROT	MABSC	MTYPE	CAVOL	EXFAC	CCRGR	TEXTC	SCSOR
			<u>1/</u>										
811503	MORO (AB.LABNO.815978)	C1013740	CLUB	13.0	0.39	10.8	51.5	1H	1357	33.0	22.0	78.0	
811504	FARO (AB.LABNO.815981)	C1017590	CLUB	12.9	0.39	9.8	50.9	1M	1294	30.0	20.0	72.0	
811505	CREW (AB.LABNO.815986)	C1017951	CLUB	13.0	0.39	9.7	50.6	1M	1351	32.0	21.0	74.0	
811506	LEWAJIN (AB.LABNO.815984)	C1017909	SWW	13.1	0.39	9.1	53.4	2H	1328	31.0	22.0	75.0	
811507	NUGAINES (AB.LABNO.815979)	C1013968	SWW	12.6	0.38	9.4	53.0	1H	1305	31.0	21.0	73.0	
811508	STEPHENS (AB.LABNO.815980)	C1017569	SWW	12.8	0.38	9.5	52.1	2M	1327	31.0	23.0	22.0	76.0
811509	DD0172 (AB.LABNO.814351)		SWS	12.3	0.38	9.7	51.3	1H	1334	32.0	23.0	23.0	78.0
811510	DD0190 (AB.LABNO.814352)		SWS	12.0	0.38	10.1	54.1	2H	1321	31.0	21.0	22.0	74.0
811511	DD0232 (AB.LABNO.814355)		SWS	12.1	0.38	9.1	52.2	2M	1308	31.0	21.0	22.0	74.0
811512	OWENS (AB.LABNO.814346)	C1017904	SWS	12.0	0.38	9.5	52.7	2M	1320	31.0	20.0	23.0	74.0
811513	DD0190 (AB.LABNO.815403)		SWS	12.5	0.38	10.0	53.8	2M	1372	33.0	22.0	22.0	77.0
811514	DD0228 (AB.LABNO.815410)		SWS	12.7	0.38	9.8	51.2	2M	1379	34.0	24.0	23.0	81.0
811515	A73241S-1-2-1 (AB.LABNO.815418)		SWS	12.6	0.38	9.6	52.3	3M	1391	34.0	23.0	22.0	79.0
811516	DD0172 (AB.LABNO.815414)		SWS	12.5	0.38	9.9	50.4	2M	1383	34.0	22.0	22.0	78.0
811517	DD0172 (AB.LABNO.815415)		SWS	12.4	0.38	10.2			1310	31.0	21.0	21.0	73.0

1/ Observed Values Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 10% Protein.

3/ Observed Values Corrected to 10% Protein.

4/ Observed Values Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.

COMMENTS: Flours received from the Idaho Quality Laboratory, Aberdeen, ID were evaluated for Japanese sponge cake baking quality. Generally, the SWS wheats were equal to the winters and clubs in cake baking performance.



PULLMAN & LIND: WA

NURSCO 58

LABNUM	VARIETY	IDNO	CLASS	TWT	WPROT	FYIELD	FASH	MSSCOR	FMIST	FPROT	AGTRO	1/
												1/
811518	FARO LIND-WINTER	C1017590	CLUB	62.0	10.3	72.6	0.40	86.6	13.0	8.9	81.0	
811519	DAWS	C1017419	SWM	62.4	11.5	69.6	0.38	81.3	12.7	9.8	81.8	
811520	BARBEE	C1017417	CLUB	61.5	11.3	70.4	0.39	80.9	12.5	9.5	72.3	
811521	TYEE	C1017773	CLUB	61.6	10.4	72.6	0.36	88.2	12.8	9.0	78.5	
811522	JACMAR	WA6585	CLUB	60.9	11.7	71.9	0.38	84.6	12.8	9.8	83.0	
811523	LUKE	C1014586	SWM	62.5	11.6	72.4	0.36	85.6	13.0	9.5	80.3	
811524	SPRAGUE	C1015376	SWM	62.1	11.8	71.3	0.37	83.8	12.4	9.9	84.8	
811525	245A	C1013844	HRW	62.5	12.9	73.1	0.37	87.0	12.7	9.9	79.0	
811526	WANSER	C1013842	HRW	62.7	13.3	70.4	0.39	83.4	13.9	11.9	74.8	
811527	MCCALL									12.1	75.8	
811528	HATTON	C1017772	HRW	63.6	11.8	72.8	0.40	87.3	13.7	11.0	77.0	
811529	MARFED LIND-SPRING	C1011919	SWS	61.0	13.1	70.6	0.39	80.7	12.6	11.1	74.0	
811530	URQUIE	C1017413	SWS	62.3	11.9	71.5	0.39	82.7	12.6	10.5	77.5	
811531	TWIN	C1014588	SWS	60.5	13.1	69.3	0.40	78.0	12.4	11.3	77.5	
811532	FIELDER	C1017268	SWS	59.4	11.6	70.5	0.40	80.9	12.8	10.0	75.0	
811533	WAVERLY	C1017911	SWS	60.3	13.1	69.4	0.39	79.8	13.0	11.4	79.8	
811534	OWENS	C1017904	SWS	61.1	12.4	66.0	0.36	75.4	13.0	10.9	79.0	
811535	DIRKWIN	C1017745	SWS	60.3	13.0	70.7	0.42	79.4	12.1	11.5	76.0	
811536	WARED	C1015926	HRS	62.5	14.3	70.7	0.43	82.9	13.5	12.8	74.3	
811537	SAWTELL	C1017424	HRS	61.0	13.2	72.3	0.43	85.7	13.2	12.0	67.3	
811538	PEAK 72	C1015319	HRS	62.9	14.6	70.9	0.40	85.0	13.0	13.3	70.8	
811539	WAMPUM	C1017691	HRS	61.7	13.3	71.6	0.43	83.8	13.0	12.5	70.8	
811540	BORAH	C1017267	HRS	61.7	14.9	70.1	0.38	83.7	13.0	12.9	70.5	
811541	MCKAY	C1017903	HRS	61.7	13.9	70.0	0.39	83.6	13.3	12.4	68.5	
811542	WA6307			61.2	13.7	69.8	0.40	83.2	13.5	12.0	70.0	
811543	WA6510											
811544	FARO PULLMAN-WINTER	C1017590	CLUB	61.9	12.9	71.1	0.43	83.2	13.3	11.9	71.5	
811545	DAWS	C1017419	SWM	59.5	10.3	70.8	0.41	81.9	13.5	8.8	84.0	
811546	BARBEE	C1017417	CLUB	59.2	10.3	70.3	0.43	79.7	12.8	8.6	80.3	
811547	TYEE	C1017773	CLUB	57.0	10.9	69.0	0.45	75.9	12.1	9.4	72.0	
WA6585				55.9	10.3	71.4	0.46	80.7	12.6	8.7	79.3	
811548	JACMAR											
811549	LUKE	C1014586	CLUB	56.1	11.7	70.4	0.48	78.4	12.6	10.2	77.5	
811550	NUGAINES	C1013968	SWM	58.8	10.3	72.1	0.45	80.6	12.3	8.7	83.5	
811551	MORO	C1013740	CLUB	58.6	10.0	68.5	0.44	75.7	12.1	8.2	78.5	
811552	PAHA	C1014485	CLUB	59.0	10.3	72.2	0.47	81.7	13.0	8.8	83.3	
				58.3	11.0	72.1	0.45	82.1	12.8	9.4	80.3	

COMMENTS: These samples were grown out in large drill strips at the Western Wheat Quality Laboratory's request by the Department of Agronomy and Soils, Washington State University. The samples provide us with research material for special projects. The samples appear normal in most quality factors. Milling quality of the Pullman nursery was below average.



LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	FABS	FPEAK	FSTAB	VISC	VISCC
<u>3/</u>										
811518	FARO LIND-WINTER	C1017590	CLUB	52.4	2M				94	120
811519	DAWS	C1017419	SWW	53.7	3M				159	166
811520	BARBEE	C1017417	CLUB	47.8	1M				44	49
811521	TYEE	C1017773	CLUB	51.6	3M				93	115
811522	JACMAR	WA6585	CLUB	51.8	2M				110	115
811523	LUKE	C1014586	SWW	53.8	3M				111	123
811524	SPRAGUE	C1015376	SWW	53.2	1M				116	118
811525	245A	C1013844	HRW	54.1	2M				106	108
811526	WANSER	C1013842	HRW	60.5	3H				5.5	
811527	MCALL		HRW	61.7	4H				9.1	11.0
811528	HATTON	C1017772	HRW	60.2	4M				9.9	
811529	MARFED LIND-SPRING	C1011919	SWS	57.3	3M				198	163
811530	URQUIE	C1017413	SWS	56.4	3M				184	168
811531	TWIN	C1014588	SWS	56.3	2M				132	106
811532	FIELDER	C1017268	SWS	56.1	2M				114	114
811533	WAVERLY	C1017911	SWS	57.4	3M				181	142
811534	OWENS	C1017904	SWS	56.9	3M				202	172
811535	DIRKWIN	C1017745	SWS	55.3	1H				141	109
811536	WARED	C1015926	HRS	62.1	4H				9.5	8.9
811537	SAWTELL	C1017424	HRS	60.1	6H				13.5	29.0
811538	PEAK 72	C1015319	HRS	63.0	8H				66.0	
811539	WAMPUM	C1017691	HRS	59.3	4H				61.6	12.2
811540	BORAH	C1017267	HRS	59.4	3H				65.7	7.4
811541	MCKAY	C1017903	HRS	59.8	6H				63.4	14.1
811542	WA6307		HRS	59.9	5H				67.4	11.2
811543	WA6510		HRS	59.3	5H				67.4	10.5
811544	FARO PULLMAN-WINTER	C1017590	CLUB	51.6	2M				9.4	
811545	DAWS	C1017419	SWW	53.0	3L				91	
811546	BARBEE	C1017417	CLUB	48.4	1M				108	
811547	TYEE	C1017773	CLUB	51.2	2M				49	
811548	JACMAR	WA6585	CLUB	51.7	2M				66	
811549	LUKE	C1014586	SWW	52.3	3L				56	
811550	NUGAINES	C1013968	SWW	52.6	3M				61	
811551	MORO	C1013740	CLUB	52.0	3M				70	
811552	PAHA	C1014485	CLUB	50.7	1M				44	

1/ Observed value Corrected to 14% Moisture Basis.

2/ Absorption at 14% Moisture Corrected to 10% Protein.

3/ Observed value Corrected to 10% Protein.

4/ Observed value Corrected to 10% Protein.

5/ Particularly Promising Overall Quality Characteristics.

6/ Promising Overall Quality Characteristics.



LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	CODI
<u>3/</u>										
<u>4/</u>										
811518	FARO LIND-WINTER	C1017590	CLUB	53.8	54.9	1.7	730	791	9	8.72
811519	DAWS	C1017419	SMW	56.7	56.9	2.8	880	892	5	8.34
811520	BARBEE	C1017417	CLUB	48.3	48.8	1.0	485	513	9	9.00
811521	TYEE	C1017773	CLUB	51.8	52.8	2.4	785	840	8	8.77
811522	JACMAR	WA6585	CLUB	52.6	52.8	1.3	850	861	8	9.05
811523	LUKE	C1014586	SMW	55.8	56.3	2.3	900	930	4	8.86
811524	SPRAGUE	C1015376	SMW	53.8	53.9	1.0	665	671	9	8.39
811525	245A	SMW	53.2	53.3	1.0	885	891	9	8.82	
811526	WANSER	C1013844	HRW	64.6	62.7	3.0	1068	937	2	8.00
811527	MCCALL	C1013842	HRW	67.0	64.9	3.7	1050	941	2	7.89
811528	HATTON	C1017772	HRW	63.4	62.4	2.9	960	898	2	7.99
811529	MARFED LIND-SPRING	C101919	SWS	59.1	58.0	2.0	1115	1049	2	8.61
811530	URQUIE	C1017413	SWS	52.1	51.6	2.0	1025	995	4	8.64
811531	TWIN	C1014588	SWS	57.1	55.8	1.0	990	912	8	8.77
811532	FIELDER	C1017268	SWS	55.3	55.3	1.0	1030	1030	8	9.01
811533	WAVERLY	C1017911	SWS	59.0	57.6	1.9	1050	966	2	8.41
811534	OWENS	C1017904	SWS	57.8	56.9	1.7	1075	1021	3	8.91
811535	DIRKWIN	C1017745	SWS	56.0	54.5	1.0	955	865	9	8.61
811536	WARED	C1015926	HRS	67.6	64.8	3.3	1075	901	4	7.99
811537	SAWTELL	C1017424	HRS	65.3	63.3	5.2	1022	898	3	7.95
811538	PEAK 72	C1015319	HRS	70.0	66.7	9.1	1145	940	2	7.75
811539	WAMPUM	C1017691	HRS	64.0	61.5	4.8	1125	970	2	8.15
811540	BORAH	C1017267	HRS	64.5	61.6	3.0	1105	925	2	8.12
811541	MCKAY	C1017903	HRS	65.4	63.0	5.3	1125	976	2	8.06
811542	WA6307	WA6585	HRS	65.1	63.1	4.1	1025	901	2	7.86
811543	WA6510	C1017590	HRS	65.4	63.5	4.2	955	837	2	7.70
811544	FARO PULLMAN-WINTER	C1017419	CLUB	51.6	52.8	2.3	725	791	9	8.80
811545	DAWS	C1017417	SMW	54.8	56.2	3.3	770	854	9	8.56
811546	BARBEE	C1017773	CLUB	48.0	48.6	1.1	735	768	9	8.99
811547	TYEE		CLUB	51.1	52.4	1.9	840	912	9	8.86
811548	JACMAR	WA6585	CLUB	52.1	51.9	1.5	880	869	9	9.07
811549	LUKE	C1014586	SMW	52.2	53.5	2.6	850	928	9	9.21
811550	NUGAINES	C1013968	SMW	52.0	53.8	2.2	825	937	8	8.80
811551	MORO	C1013740	CLUB	53.0	54.2	2.4	880	946	8	9.11
811552	PAHA	C1014485	CLUB	50.3	50.9	1.1	630	663	9	9.17



LABNUM	VARIETY	IDNO	CLASS	CODIC	CAVOL	SCSOR	WTIN	NOSCO	RMKS
811518	FARO LIND-WINTER	C1017590	CLUB	8.65	1252	73.0	369	79	
811519	DAWS	C1017419	SWM	8.32	1199	67.0	363	81	
811520	BARBEE	C1017417	CLUB	8.96	1286	72.0	384	78	
811521	TYEE	C1017773	CLUB	8.70	1248	69.0	369	81	
811522	JACMAR	WA6585	CLUB	9.04	1270	71.0	362	75	
811523	LUKE	C1014586	SWM	8.82	1302	74.0	368	80	
811524	SPRAGUE	C1015376	SWM	8.38	1209	70.0	371	77	
811525	245A	C1013844	SWM	8.81	1281	73.0	373	73	
811526	WANSER	C1013842	HRW	8.15					
811527	MC CALL		HRW	8.06					
811528	HATTON	C1017772	HRW	8.07					
811529	MARFED LIND-SPRING	C1011919	SWS	8.73	1278	72.0	370	75	
811530	URQUIE	C1017413	SWS	8.69	1305	72.0	355	74	
811531	TWIN	C1014588	SWS	8.97	1347	75.0	366	77	
811532	FIELDER	C1017268	SWS	9.01	1344	76.0	394	76	
811533	WAVERLY	C1017911	SWS	8.57	1316	75.0	390	78	
811534	OWENS	C1017904	SWS	9.01	1368	80.0	402	78	
811535	DIRKWIN	C1017745	SWS	8.78	1280	70.0	370	69	
811536	WARED	C1015926	HRS	8.21					
811537	SAWTELL	C1017424	HRS	8.11					
811538	PEAK 72	C1015319	HRS	8.01					
811539	WAMPUM	C1017691	HRS	8.35					
811540	BORAH	C1017267	HRS	8.36					
811541	MCKAY	C1017903	HRS	8.25					
811542	WA6307		HRS	8.02					
811543	WA6510		HRS	7.85					
811544	FARO PULLMAN-WINTER	C1017590	CLUB	8.71	1377	80.0	356	78	
811545	DAWS	C1017419	SWM	8.41	1264	69.0	372	80	
811546	BARBEE	C1017417	CLUB	8.94	1321	75.0	387	72	
811547	TYEE	C1017773	CLUB	8.77	1293	72.0	387	78	
811548	JACMAR	WA6585	CLUB	9.09	1305	75.0	368	73	
811549	LUKE	C1014586	SWM	9.10	1347	77.0	352	76	
811550	NUGAINES	C1013968	SWM	8.59	1219	66.0	344	74	
811551	MORO	C1013740	CLUB	9.00	1246	68.0	364	73	
811552	PAHA	C1014485	CLUB	9.15	1368	77.0	358	76	



LABNUM	VARIETY	IDNO	CLASS	TWT	WPROT	FYELD	FASH	MSCOR	FMIST	FPROT	AGTRO
<u>1/</u>											
811553	CREW	C1017951	CLUB	60.9	10.6	72.6	0.44	84.7	12.5	8.9	81.3
811554	MCDERMID	C1014565	SWW	58.7	9.9	70.2	0.44	79.3	12.3	7.9	81.0
811555	STEPHEN'S	C1017569	SWW	59.4	10.9	71.4	0.43	80.7	12.4	8.8	83.3
811556	HYSLOP	C1014564	SWW	58.4	10.7	70.2	0.43	79.1	12.4	9.2	77.3
811557	OR7142		CLUB	60.6	10.4	71.8	0.46	82.5	13.0	8.6	83.3
811558	HATTON	C1017772	HRW	63.6	10.9	72.7	0.45	84.2	13.2	9.4	73.5
811559	WANSER	C1013844	HRW	58.2	12.2	68.0	0.41	78.8	14.1	10.2	60.5
811560	FIELDER	C1017268	SWS	55.7	11.5	67.1	0.46	72.5	12.6	9.7	75.5
811561	PEAK	C1015319	HRS	60.5	13.5	71.6	0.45	83.7	12.7	11.8	70.3



USDA, SEA AR  
WESTERN WHEAT QUALITY LAB.  
PULLMAN, WA.

DRILL STRIPS

NURSCO 58

PULLMAN & LIND, WA

PAGE 2b

LABNUM	VARIETY	IDNO	CLASS	MABSC	MTYPE	FABS	FPEAK	FSTAB	VISC	VISCC
811553	CREW	C1017951	CLUB	49.4	1M				50	63
811554	MCDERMID	C1014565	SWW	53.6	2L				48	81
811555	STEPHEN'S	C1017569	SWW	52.8	2L				62	81
811556	HYSLOP	C1014564	SWW	52.9	3L				68	80
811557	OR7142		CLUB	50.7	1M				72	98
811558	HATTON	C1017772	HRW	59.7	4M				4.6	8.7
811559	WANSER	C1013844	HRW	60.4	4M				6.9	7.9
811560	FIELDER PULLMAN-SPRING	C1017268	SWS	52.2	2M				92	98
811561	PEAK 72	C1015319	HRS	58.2	8H	63.3	42.1	15.2		



USDA, SEA AR  
WESTERN WHEAT QUALITY LAB.  
PULLMAN, WA.

NURSCO 58

DRILL STRIPS

PULLMAN & LIND, WA

PAGE 2C

LABNUM	VARIETY	IDNO	CLASS	BABS	BABSC	MTIME	LVOL	LVOLC	BCRGR	CODI
811553	CREW	C1017951	CLUB	48.5	49.6	1.0	600	661	9	9.01
811554	MCDERMID	C1014565	SMW	54.7	56.8	3.1	715	841	9	8.82
811555	STEPHENS	C1017569	SMW	53.8	55.0	2.0	780	852	9	8.89
811556	HYSLOP	C1014564	SMW	54.8	55.6	2.5	815	863	8	8.52
811557	OR7142		CLUB	50.5	51.9	1.5	710	787	9	8.72
811558	HATTON	C1017772	HRW	62.8	63.4	3.1	850	887	4	8.17
811559	WANSER	C1013844	HRW	62.8	62.6	3.7	985	971	2	8.32
811560	FIELDER	C1017268	SWS	53.1	53.4	2.1	925	943	5	8.96
811561	PEAK 72	C1015319	HRS	63.7	61.9	10.0	1000	888	2	8.00

4/

3/



LABNUM	VARIETY	IDNO	CLASS	CODIC	CAVOL	SCSOR	WTIN	NOSCO	RMKS
811553	CREW	C1017951	CLUB	8.93	1280	72.0	366	77	
811554	MCDERMID	C1014565	SWW	8.60	1212	68.0	344	73	
811555	STEPHENS	C1017569	SWW	8.76	1269	70.0	333	73	
811556	HYSLOP	C1014564	SWW	8.42	1201	67.0	329	68	
811557	OR7142		CLUB	8.63	1278	72.0	371	79	
811558	HATTON	C1017772	HRW	8.13					
811559	WANSER	C1013844	HRW	8.33					
811560	FIELDER	C1017268	SWS	8.93	1305	74.0	355	73	
811561	PEAK 72	C1015319	HRS	8.14					



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INTERNATIONAL

LABNUM	VARIETY	IDNO	CLASS	TWT	W/MIST	FYIELD	MSCOR	FASH	FPROT	MABS	MTYPE	BALADY BREAD <sup>a/</sup> pocket text. color	
811562	CANADIAN			61.4	10.3	71.4	82.4	0.43	8.4	50.5	2L	S	
811563	FRENCH			SRW	60.1	10.2	71.4	81.3	0.50	8.8	53.6	3L	S
811564	EGYPTIAN			HWW	62.3	9.8	71.5	81.1	0.50	8.7	57.0	4M	S
811565	AUSTRALIAN			SWS	62.6	9.5	70.3	81.0	0.43	7.8	53.0	3L	S
811566	AUSTRALIAN (LABNO. 801353)			SWS	63.3	10.9	71.5	80.7	0.45	9.5	55.5	4M	S

LABNUM	VARIETY	IDNO	CLASS	TWT	vol.	CAVOL	EXFAC	SCSOR	WTIN	NOSCO	RMKS	
811562	CANADIAN			SWW	1270	6	6	8	1263	29.0	75.0	343
811563	FRENCH			SRW	1125	8	8	7	1083	22.0	63.0	335
811564	EGYPTIAN			HWW	1090	10	10	10	1038	20.0	51.0	341
811565	AUSTRALIAN			SWS	1050	7.5	8	8	1128	24.0	63.0	341
811566	AUSTRALIAN (LABNO. 801353)			SWS	1170	8	9.5	9.5	1078	26.0	60.0	327

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 9% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 9% Protein.

COMMENTS: All samples were suitable for Egyptian balady bread production. In Tunisian bread the Egyptian wheat performed excellent, although the loaf volume was only average. The Canadian and Australian (Lab No. 811562 and 1565) were inferior as Tunisian bread wheats. Sponge cake baking quality of all except the Canadian SWW were poor. The French SRW was very poor in noodle making primarily due to color and texture.

a/ BREAD FORMULA\*

Balady	Tunisian**			
%	g	%	g	
Flour	100	65	100	200
Water	70	45	60	120
Salt	1.5	.975	1.5	3
Yeast	1.0	.65	2.0	4

\* Balady and Tunisian breads were baked according to the method described by Faridi and Rubenthaler, Cereal Chemistry.

\*\* Malt and ascorbic acid were added to the Tunisian bread 0.25% and 50 ppm, respectively.



NURSCO 60 COMM. PNW

LABNUM	VARIETY	IDNO	CLASS	TWT	WMIST	FMIST	FASH	FYIELD	MSCOR	WPROT	FPROT	MABS	MABSC	MTYPE	<u>1/</u>	<u>3/</u>
															<u>1/</u>	<u>3/</u>
811567	0.0% SPROUT DAMAGE	1	SWW	58.8	10.4	13.4	0.43	70.5	78.7	9.1	7.9	50.8	51.9	3L		
811568	1.9% SPROUT DAMAGE	2	SWW	53.2	10.4	13.2	0.47	63.5	68.7	11.0	9.7	53.1	52.4	2M		
811569	0.5% SPROUT DAMAGE	3	SWW	51.5	10.5	12.9	0.49	64.1	66.1	11.1	9.5	51.2	50.7	2M		
811570	2.2% SPROUT DAMAGE	4	SWW	56.9	10.2	13.1	0.47	66.4	73.0	10.0	8.7	52.0	52.3	3L		
811571	2.2% SPROUT DAMAGE		SWW	57.4	10.2	12.8	0.47	67.8	74.8	10.1	8.5	51.1	51.6	2L		
811572	0.5% SPROUT DAMAGE	5	SWW	51.9	10.5	12.8	0.52	63.7	66.5	10.7	9.7	51.6	50.9	2M		
811573	0.3% SPROUT DAMAGE	6	SWW	51.8	10.5	12.7	0.53	65.4	67.1	11.3	9.7	51.5	50.8	2M		
811574	1.3% SPROUT DAMAGE	7	SWW	54.2	10.3	12.6	0.53	66.2	68.7	11.0	9.8	52.4	51.6	3M		
811575	2.3% SPROUT DAMAGE	8	SWW	53.8	10.2	12.5	0.54	65.3	68.7	11.9	9.9	52.8	51.9	3M		
811576	2.2% SPROUT DAMAGE	9	SWW	57.6	10.2	12.5	0.49	68.0	75.3	9.8	8.8	51.8	52.0	3M		

1/ Observed Values Corrected to 14% Moisture Basis. 5/ Particularly Promising Overall Quality Characteristics.  
3/ Absorption at 14% Moisture Corrected to 9% Protein. 6/ Promising Overall Quality Characteristics.  
4/ Observed Values Corrected to 9% Protein.

COMMENTS: Work was done in co-operation with the USDA, Federal Grain Inspection Service (FGIS), who are seeking improved methodology that will relate with amylograph for measuring sprout damage. Samples were collected by FGIS and blending was done with two sound wheats to provide samples within the range of 250-350 amylograph B.U.'s.

- 1) See pages 2 and 3 for sample description and preparation.
- 2) See page 4 for amylograph, Falling Number, DSI dye, and Nephelometric alpha-amylase data on constructed samples.
- 3) See page 5 for alpha-amylase data on the whole wheat samples.

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## Sample Description &amp; Preparation

1) Original 9 Sprouted Soft White Wheats (Rec. from FGIS).

No.	% Sprout Damage	F.N.	DSI*	Amylo
1	1.9	311	.085	180
2	.5	306	.076	225
3	2.2	289	.083	190
4	1.3	326	.077	210
5	.5	308	.071	195
6	.3	310	.071	220
7	1.3	284	.107	180
8	2.3	275	.112	130
9	2.2	310	.082	205

2) Three blends made from above wheats.

Blend I = 1, 7, & 8  
 " II = 2, 4, & 6  
 " III = 3, 5, & 9

3) Two sound wheats were selected for mixing with Blends I, II, & III.

- 1) Composite of Stephens - Amylo B4. 730
- 2) Composite of Nugaines - Amylo B4. 565

\* 50% 3 min.



4) Blends were made based on experimental trials to give Amylo-B4's of 250, 300, & 350 with materials from Blends I-III and the two sound wheats.

Sample No.						Expected B4
1	100%	Stephens				565
2	34	"	+	66%	Blend I	300
3	28	"	+	72%	Blend II	300
4	40	"	+	60%	Blend III	300
5	100%	Nugaines				730
6	42	"	+	58%	Blend I	300
7	18	"	+	82%	Blend II	300
8	29	"	+	71%	Blend III	300
9	100%	Stephens				565
10	22	"	+	78%	Blend I	250
11	9	"	+	91%	Blend II	250
12	16	"	+	84%	Blend III	250
13	46	"	+	54%	Blend I	350
14	40	"	+	60%	Blend II	350
15	42	"	+	58%	Blend III	350
16	100%	Nugaines				730
17	14	"	+	86%	Blend I	250
18	6	"	+	94%	Blend II	250
19	9	"	+	91%	Blend III	250
20	31	"	+	69%	Blend I	350
21	23	"	+	77%	Blend II	350
22	26	"	+	74%	Blend III	350

WI-W8 - Same proportions as 1 through 8. (Ground whole wheat).



FG15 Amylase Study of PNW WW  
Flour Results

Sample No.	Amylo B.U.	F.N.	DSI Dye Abs.	Neph. Colorim.
1	720	407	.040	33
2	250	370	.135	145
3	300	381	.143	85
4	330	417	.147	60
5	870	458	.087	10
6	290	401	.165	105
7	310	372	.160	76
8	290	401	.165	70
9	575	437	.086	48
10	200	397	.184	92
11	300	388	.170	72
12	260	386	.173	73
13	270	379	.158	121
14	310	392	.128	82
15	350	374	.150	64
16	820	510	.076	60
17	200	358	.181	82
18	320	372	.153	168
19	270	391	.160	103
20	300	372	.152	67
21	320	408	.127	48
22	330	402	.131	47
Amylo vs FN				r = .82
Amylo vs DSI				r = .89
Amylo vs Neph.				r = .58

\* DSI-Dye -- 60°C / 9 min.

Amylo vs FN r = .82

Amylo vs DSI r = .89

\*\* Neph. -- 2 AMY cycle

Amylo vs Neph. r = .58



FG 15 Amylase Study of PNW WW  
Wheat Results

Sample No.	F.N.	DSI* Dye A65.	Neph. GAA units	Amylo **	
W1	418	.091	24	720	
W2	332	.388	197	250	
W3	282	.530	248	300	
W4	344	.292	123	330	
W5	436	.108	30	870	
W6	310	.312	164	290	
W7	322	.397	210	310	
W8	304	.416	215	290	
		<u>Corr. Coef.</u>			<u>Corr. Coef.</u>
	FN vs. DSI	.94		Amylo vs Neph	.90
	FN vs. Neph.	.95		Amylo vs DSI	.87
	DSI vs. Neph.	.98		Amylo vs FN	.94

\* DSI-Dye -- 60°C/9 min.

\*\* from the milled flour



NURSCO SPECIAL 001

VOLCANI INSTITUTE, BET DAGAN, ISRAEL

A. GRAMA & C.F. KONZAK

LABNUM	IDNO	TWT	FYIELD	CLASS	FPROT	BABS	MTIME	LVOL	BCRGR	REMARKS
8114493	811001	CLUB	63	73.6	SW	8.28				
494	811002	HR	64.5	71.4	HR	11.5				
495	811003	SWW	62.5	68.4	SW	10.0				
8114496	1227-81		58.5	72.5	HW	12.22	63.9	3.2	874	8
497	1200-81		57	73.4	HW	12.16	63.9	5.8	978	4
498	1205-81	6/	58	70.4	HR/W	10.79	63.4	5.0	949	2
499	382-81	5/	54	70.3	HR	13.02	65.9	3.9	1064	2
500	383-81		53.5	71.9	HW	13.79	65.9	3.2	966	2
8114501	829-81	5/	60	73.1	HR	12.60	65.9	2.8	1047	2
502	830-81	5/	60	72.5	HR	12.66	66.9	3.8	1035	2
503	1239-81		56.5	68.4	SR/W	13.41	62.9	4.8	1047	2
504	1209-81	6/	63	76.1	HW	10.68	62.4	5.9	943	2
505	834-81	5/*	61	76.1	HW	12.37	66.9	6.8	1070	1
8114506	876-81		58.5	67.5	SR	13.74	62.9	1.6	1110	2
507	865-81		58	65.5	SR	12.21	59.9	1.7	1035	4
508	1220-81		59.5	68.0	SR	13.39	61.9	1.7	1128	4
509	453-81		51.5	64.5	SW	12.87	59.9	1.4	989	4
510	1231-81	6/	55.5	70.8	HR	13.84	61.4	1.6	1058	1
8114511	1213-81		61	67.0	SR	12.4	59.9	1.5	978	5
512	1235-81		58.5	71.0	HW	14.64	64.7	2.3	949	4
513	1236-81		59	68.1	HR	14.41	64.4	1.9	1012	4
514	845-81		58.5	67.7	SR	13.21	59.9	1.0	989	8
515	864-81		60.5	68.7	SR	12.81	57.9	1.0	989	5
8114516	846-81		61	69.4	SR	12.93	58.9	1.0	966	6
517	848-81		59	70.3	HR	12.69	61.9	2.1	866	6
518	1219-81	6/	58	69.2	SW	13.54	64.4	3.1	1035	2
519	856-81		57	66.6	HR	13.74	65.4	2.7	1139	2
520	884-81	6/	5.71	71.4	HW	13.35	65.9	2.8	990	2



USDA, ARS  
WESTERN WHEAT QUALITY LAB.  
PULLMAN, WA 99164

TRITICUM DICOCCOIDES DERIVATIVES

VOLCANI INSTITUTE, BET DAGAN, ISRAEL

NURSCO SPECIAL 001

CONTD. PAGE 2

A.GRAMA & C.F. KONZAK

LABNUM	IDNO	TWT	FYIELD	CLASS	FPROT	BABS	MTIME	LVOL	BCRGER	REMARKS
8114521	857-81	59	70.2	SW	13.48	62.9	2.4	874	6	P-LVOL & BCRGR
522	858-81 6/	59	72.4	HW	13.60	64.4	2.9	978	2	
523	859-81 6/	56.5	67.1	SW	13.15	62.9	3.1	1035	3	Q-FYIELD
524	1215-81	62	59.8	SR	12.93	61.9	2.6	1047	2	P-FYIELD
525	1246-81	60	63.5	SR	13.05	63.4	2.9	978	3	P-FYIELD
8114526	1214-81	57.5	70.2	SW	12.62	60.9	3.2	943	3	Q-LVOL
527	1243-81 6/	54	71.1	SW	14.80	65.4	2.6	978	2	P-LVOL/% FPROT
528	BTL 5/	61	76.6	HW	9.80	59.9	3.9	863	2	LOW FPROT
529	V378-751 5/	59	72.9	HR	11.19	64.9	5.6	984	1	
530	V395-214	60	68.7	HR	11.43	62.9	3.2	886	4	P-FYIELD, BCRGR

5/ Particularly Promising Overall Quality Characteristics.  
6/ Promising Overall Quality Characteristics.

\* = Outstanding sample. P = Poor, Q = Questionable

LABNUM - Laboratory Id number  
IDNO - Identification Number  
TWT - Test weight, (pounds/bushel)  
FYIELD - Flour yield, percent  
CLASS - Market class  
FPROT - Flour protein, percent  
BABS - Baking water absorption, percent  
MTIME - Mixing time requirement, minutes  
LVOL - Loaf volume, cc  
BCRGR - Bread crumb score

- 1 Excellent
- 2 Satisfactory
- 3
- 4
- 5
- 6 Questionable
- 7
- 8
- 9 Unsatisfactory



LOAF VOLUME (cc 10g X 11.5) cc

% FLOUR PROTEIN

15

14

13

12

11

10

875

800

950

1000

1050

1100

1150

